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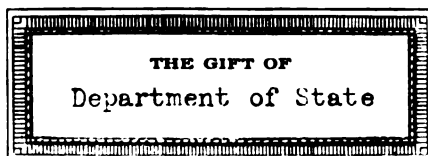
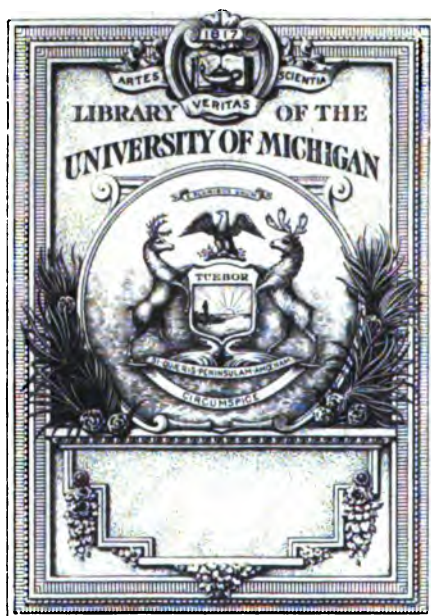
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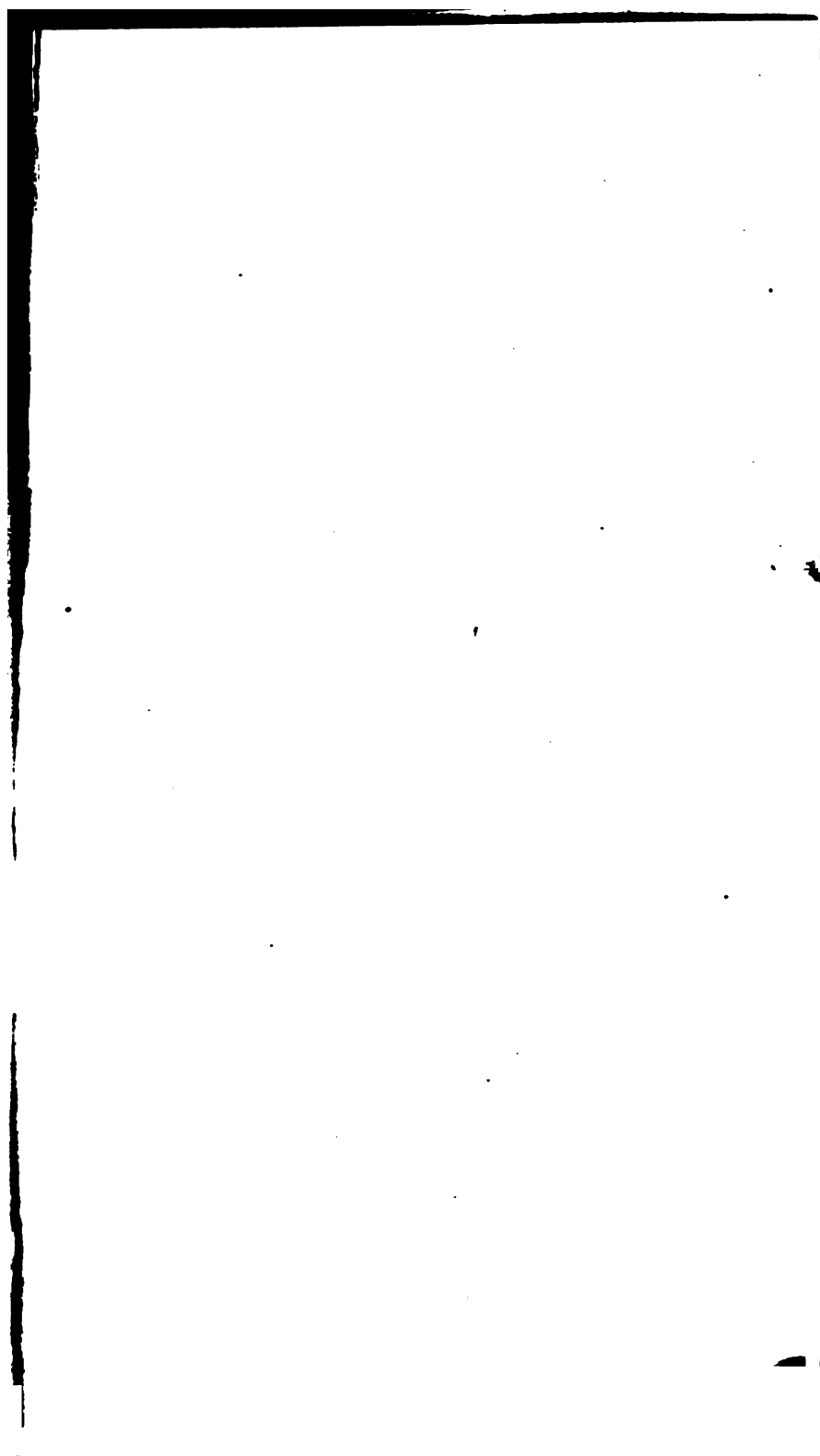
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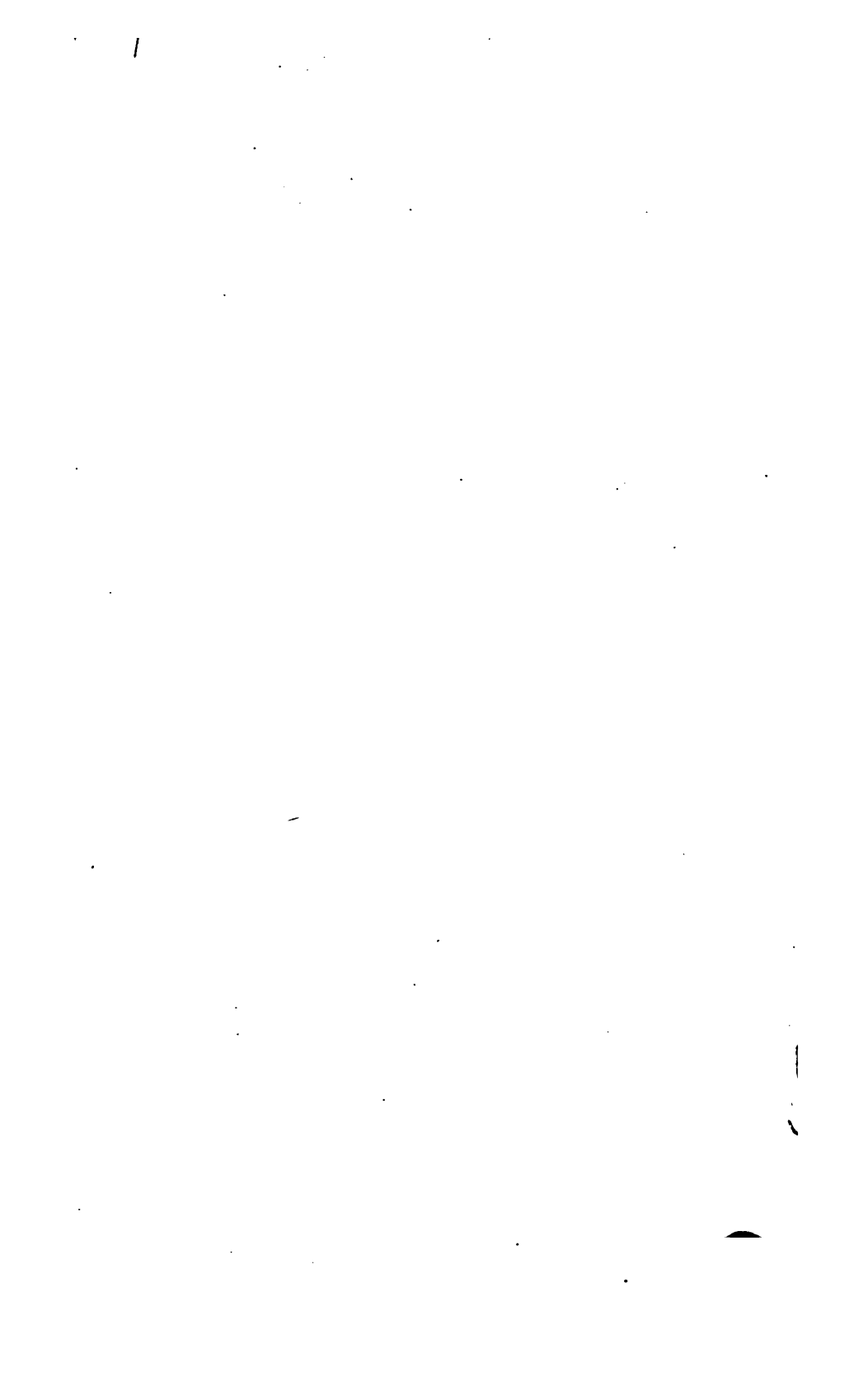
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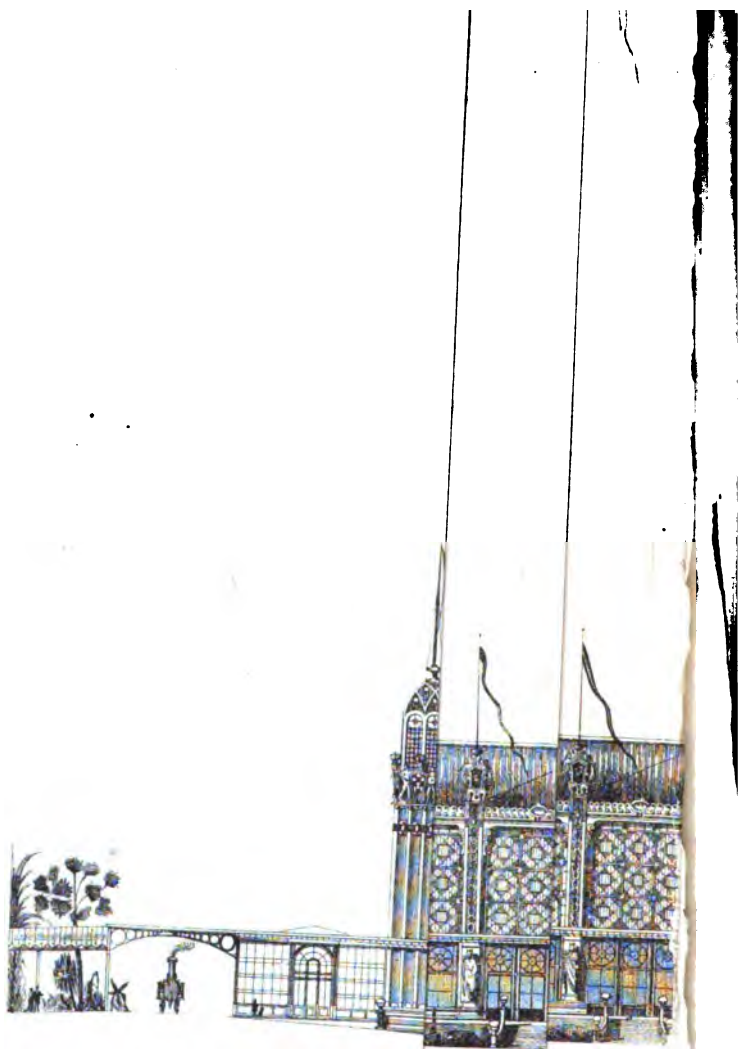
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PART I.
(SECOND EDITION.)



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W. S. Pearse, Esq., M.L.C.	

EXECUTIVE.

**(By permission of H.R.H. the President),
The Secretary of the Royal Commission.**

NEW ZEALAND.

COMMISSIONER :

Thomas Purvis Russell, Esq.

THE INTERNATIONAL FAÇADE.

BRITISH SECTION.

THE total length of the English space fronting the Central Avenue being upwards of 540 feet, it was deemed advisable to subdivide the façade into five portions, and to separate each of these from one another by gardens. By this means it has been possible to give to each of the five houses a distinctive character, and to relieve the monotony of a long unbroken frontage.

The first house on entering the Central Avenue from the Grand Vestibule has been erected by Mr. W. H. LASCELLES, of 121, Bunhill Row, from the design of Mr. R. NORMAN SHAW, R.A. It is in the "Queen Anne" style of architecture, and is constructed of a patented imitation of red brickwork, the invention of the exhibitor. Mr. LASCELLES faces thin slabs of Portland cement concrete with smaller slabs of red concrete, the size of bricks, and these slabs are screwed on to a timber framework. The furniture and decorations of this house have been supplied by Messrs. JACKSON & GRAHAM, of 37, Oxford Street; the wall papers by Messrs. JEFFREY & Co., Essex Road, Islington; and the whole has been offered by these firms to His Royal Highness the President for the use of the Commission.

The second house, the pavilion of H.R.H. THE PRINCE OF WALES, has been erected by the Royal Commissioners from the designs of their architect, Mr. GILBERT R. REDGRAVE, for the President of the Royal Commission. This house is in the Elizabethan style, and has been constructed of rubble stonework, faced with coloured plaster, in imitation of red brickwork, with Bath stone dressings. The entrance gates of this pavilion and the garden gates and railing on either side of it have been supplied by Messrs. BARNARD, BISHOP, & BARNARD, of Norwich. The interior fittings and decorations, together with the furniture, have been supplied by Messrs. GILLOW & Co., with whom are associated some English exhibitors, whose offers to contribute as part of their exhibition have been accepted (for list, *see* p. xix). The whole of the designs for the interior of the house have been prepared by Messrs. GILLOW & Co., 176, Oxford Street, from drawings by their artists, Messrs. HENRY & HAY.

The third house, being a façade of red brick and terra-cotta manufactured by Messrs. DOULTON & Co., of Lambeth, and exhibited by them, is the design of Messrs. TARRING & WILKINSON. The furniture and decorations have been executed by Messrs. G 804. b

SHOOLBRED & Co., of Tottenham Court Road, and placed by them at the disposal of HIS ROYAL HIGHNESS THE PRESIDENT.

The fourth house of the series, erected by Messrs. WM. CUBITT & Co., of 258, Gray's Inn Road, from the designs of MR. GILBERT REDGRAVE, the architect of the Royal Commission, and offered by them to THE PRINCE of WALES for the use of the Commission, has been placed at the disposal of the Dominion of Canada. The house is built of pitch-pine framework, enriched with carving, and filled in with plaster panels, a style of construction known as half-timbered work, and which was very much employed in England from the fifteenth to the seventeenth century. The entrance gates, in wrought ironwork, which enclose the garden between this house and the end one, have been made by Messrs. WM. CUBITT & Co., for Lord CREWE's park, from the design of Mr. E. M. BARRY, R.A. The furniture of this house has been provided by Canadian manufacturers; the carpets are supplied, as part of their exhibition, by Messrs. JOHN BRINTON, of Kidderminster, and the wall papers by Messrs. JEFFREY & Co., Essex Road, Islington.

The fifth house, erected by Messrs. COLLINSON & LOCK, of Fleet Street, was designed by Mr. T. E. COLLCUTT. It is in the style of an English country house of the reign of King William III. The framework is of timber. The furniture and internal decorations of this house are manufactured and exhibited by Messrs. COLLINSON & LOCK.

ENGLISH COTTAGES.

Two cottages have been erected in the grounds by Mr. W. H. LASCELLES, of Bunhill Row, London, from the designs of Mr. R. NORMAN SHAW, R.A.; the one of them, a two-roomed labourer's cottage, and the other, a more roomy house, suitable for a gardener, a gamekeeper, or entrance to a park. The furniture and appointments of these cottages have been carefully selected by Messrs. WILLIAMSON & SON, of Guildford, from old Surrey cottages in that neighbourhood, and are shown as correct types of old English cottage furniture. The gardens have been laid out by Mr. JOHN WILLS, of Onslow Crescent, South Kensington, London.

MARINE ANNEXE.

This Annexe, which is situated at the western extremity of the Champ de Mars on the banks of the River Seine, and is in proximity to the French Marine Annexe, through which it is approached from the Pont de Jena, was rendered necessary by the late applications for space of a number of British firms who are interested in shipbuilding and articles relating thereto; it contains a collection of models of ships, both naval and mercantile (which have been contributed by some of the most eminent shipbuilders and ocean steamship companies), as well as life-saving apparatus, river pleasure boats, and the like.

The following is a list of the exhibitors; for details of the objects shown, see Class 67 :—

Armit, R. H., Lieutenant Royal Navy.
 Ballardie, D.
 The Barrow Shipbuilding Co.
 The Berthon Boat Co., Limited.
 Biffen, W. H., junior.
 Birt, J. & A. W.
 Brice, W. A.
 Brune & Co.
 Chadburn & Son.
 Crispin, W. H.
 Cunard, Burns, & McIver.
 Cunningham, Shaw, & Co.
 Dunlop, R. H. W., C.B.
 The East & West India Dock Co.
 Hall, Julius.
 Head, Wrighton, & Co.
 Homfray & Co.
 Hunter & English.
 The Inman Steamship Co.
 Knight, S.
 Lafargue, A.
 Laird Brothers.
 Lewin, D. J.
 Lipman & Co.
 Livie, D.

The London & Glasgow Engineering and Shipbuilding Co., Limited.
 Mackie, S. J.
 Martin, C., & Co.
 Meyer, F. I.
 Mills, Robert.
 Palmer's Shipbuilding and Iron Co., Limited.
 Parratt, G. F.
 Roy, E. A.
 Russell, J. Scott, & Lumley, Henry.
 Siebe and Gorman.
 Steedman & McAlister.
 Stone, L., & Co.
 Sunderland Shipbuilders' Association.
 Thompson, W. B.
 Thomson, J. & G.
 Vansittart, Mrs. H.
 Watts, J. W.
 The White Star Line (Ismay, Imrie, & Co.)
 Whitworth, Sir Joseph, & Co., Limited.
 Wigzell, Halsey, & Co.

PAVILION OF HIS ROYAL HIGHNESS THE PRINCE OF WALES.

Erected by the Royal Commission as a part of the International
Façade from the designs of GILBERT R. REDGRAVE, Assoc.
Inst. C.E., Architect to the Royal Commission.

INDUSTRIAL ART MANUFACTURES

BY THE FOLLOWING

BRITISH EXHIBITORS,

From designs supplied by MESSRS. GILLOW & Co. (Hors Concours),
(Artists, H. C. J. Henry and J. W. Hay),

REPRESENTING CONTEMPORARY BRITISH WORK IN VARIOUS STYLES.

Andrews, Michael -	Belfast -	Table linen.
Barnard, Bishop, & Barnards.	Norwich -	Wrought-iron entrance gates, and stoves, &c. in dining-room.
Betjemann, G. J., & Sons	London -	Materials and appliances for the writing table.
Doulton & Co. -	London -	Fountain for garden.*
Elkington & Co. -	Birmingham and London.	Repoussé silver dessert service, garniture de cheminée.
Freetham (Mark) & Co. -	London -	Wrought-steel stoves in drawing and morning rooms.
Gillow & Co. -	London and Lancaster.	The internal decorations and furniture of the Pavilion.
Jackson, G., & Sons -	London -	Carton pierre enrichments in drawing-room in the "Adams" style.
Jennings, George -	London -	Sanitary arrangements in dressing-room.
Kent, G. B., & Co. -	London -	Toilet brushes, &c.
Mintons -	Stoke-upon-Trent and London.	China services and vases.
Minton, Hollins, & Co. -	Stoke-upon-Trent and London.	Fountain for garden.†
Powell (James) & Sons -	London -	Encaustic tessellated pavement and decorated tiles for stoves, and lavatories.
Radclyffe (Dick), & Co.	London -	Stained glass windows and table glass.
Royal Windsor Tapestry Manufactory (H.R.H. Prince Leopold, K.G., President).	Windsor -	Conservatory.
Royal School of Art Needlework (H.R.H. Princess Christian of Schleswig-Holstein, President).	London -	Portrait of the Queen. The eight dining-room tapestries.
Templeton (James) & Co.	Glasgow & London	Embroideries on curtains and furniture in drawing-room.
The Ladies' Work Society (H.R.H. Princess Louise, Marchioness of Lorne, President).	London -	Carpets and curtains.
Treloar & Sons -	London -	Appliqué embroideries upon frieze and wall panels in morning-room.
		Co coa-nut mats.

*Designed by G. Tinworth.

† The fountain designed by P. Comolera.

**NAMES OF FIRMS WHO HAVE LENT OR PROVIDED,
FREE OF CHARGE, OBJECTS FOR THE USE OF
THE ROYAL BRITISH COMMISSION.**

See also Façade and Pavilion, pp. xvii-xix.

Appleby, Brothers ; Mechanical and Civil Engineers ; *Emerson Street, Southwark, London. Works, London, Leicester, and Derby.*

Two steam cranes, a crab or heavy winch, tackle, &c. for loading and unloading Exhibition goods. See Class 54.

Aveling & Porter ; Engineers, Inventors, Manufacturers ; *Rochester, Kent ; 72, Cannon St., London ; 9, Avenue Montaigne, Paris.*

Two steam traction engines with cranes and road trucks for conveyance of empty cases, &c. between the Exhibition and the dépôt. See Classes 51 and 54.

Cheavin, George ; Water Filter Manufacturer ; *Wide Bargate Filter Works, Boston, Lincolnshire. (Agents in Paris, Decher and Mot, 168 and 176, Boulevard de la Villette.)*

Water filters for use in the offices, &c. of the Royal Commission. See Class 66.

The Coalbrookdale Company ; *Coalbrookdale, Shropshire.*

"The Royal Arms," a casting in iron for the front of the Royal Commission Offices, 40, Avenue de Suffren, Paris. See Class 25.

Copestake, Hughes, Crampton, & Co. ; Lace and Muslin Manufacturers ; *5, Bow Church Yard, London. Works, Nottingham.*

Curtains for decorative purposes. See Class 36.

Corbière, Son, & Brindle ; *30, Cannon St., London.*

Curtains and hangings, for the Picture Galleries of the British Section.

The Corticine Floor Covering Company ; Manufacturers of Floor Cloth and Inventors ; *112, Queen Victoria St., London, and Ponder's End, near London.*

Corticine Floor Cloth round the engine space in the Machinery Gallery. See Class 21.

Elkington & Co.; Electro-platers and Silversmiths, Inventors;
Newhall St., Birmingham.

Electro-plate for use of the staff of the Royal Commission living at the Royal Commission House, 40, Avenue de Suffren, Paris. See Class 24.

Feetham (Mark) & Co.; Stove Manufacturers, Ironworkers, Engineers, Inventors; 9, *Clifford St., London.*
Works, 17, Soho Square, London.

Kitchen range, &c. in the offices of the Royal Commission, 40, Avenue de Suffren, Champ de Mars, and in the Mechanics Hall, 13, Rue Dessaix Champ de Mars. See Class 27.

Fowler, J., & Co.; Engineers, Inventors, and Manufacturers;
Steam Plough Works, Leeds; and 71, Cornhill, London.

A Steam Traction Engine and Trucks for conveyance of empty cases from the Exhibition to the Dépôt. See Classes 50 and 51.

Galloway, W. & J., & Sons; *Knott Mill Iron Works, Manchester.*

Steam Boilers, Steam Engines, and Shafting for the British section of the Machinery Gallery. For full description see Catalogue, Class 54.

Green, E., & Son; Engineers, Patentees, and Sole Makers;
Economizer Works, Wakefield.

Fuel Economizer in connexion with Messrs. Galloway's steam boilers. See Class 54.

Hunter & English; Engineers and Millwrights; *Bow Road, London.*

A Steam Launch. See Class 67.

Lascelles, William Henry; Builder, Manufacturer, Inventor;
121, Bunhill Row, London.

Two Cottages in the grounds, designed by R. Norman Shaw, Esq., R.A., a Stable for a pony. For full description see Catalogue, Class 66; see also Classes 17 and 85.

Lewin, David James; 110, *Cannon St., London.*

A Steam Launch. See Class 67.

Lipman & Co.; *Glasgow.*

Fire Extinguishers. For full description, see Class 67.

McNaught & Smith; Carriage and Harness Makers; *Worcester; and at 45, Park Lane, London.*

A Brougham for the use of the Royal Commission. See Class 62.

Merryweather & Sons; Fire-engine Makers, Hydraulic and General Engineers, Inventors, and Patentees; 63, *Long Acre, York St., Lambeth, and Greenwich Road, London.*

Fire-engines and Fire Extinguishing Apparatus, with the services of a competent Fireman. See Class 54.

Peters (Thomas) & Sons; Coach Builders; *Park St., Grosvenor Square, and Upper George St., Portman Square, London.*

An Omnibus for the use of the Royal Commission. See Class 62.

Pillischer, Moritz; Optician and Maker of Scientific Instruments; 88, *New Bond St., London.*

A Barometrograph, and Lamps for the Office of the Royal Commission, 40, Avenue de Suffren, Champ de Mars. See Classes 15 and 27.

The Silicated Carbon Filter Company; Manufacturers and Inventors; *Church Road, Battersea, London.*

Water Filters for use in the offices, &c. of the Royal Commission. See Class 66.

Shand, Mason, & Co.; Manufacturers of Steam and Manual Fire-engines and Fire Appliances; 75, *Upper Ground St., Blackfriars Rd., London.*

Fire-engines and Fire Extinguishing Apparatus. See Class 54.

Treloar & Sons; Cocoa-nut Fibre Manufacturers; Inventors; 69, *Ludgate Hill, London.*

Cocoa-nut Mats for the offices of the Royal Commission. Cocoa-nut Matting and Coir Fibre Mats for the Picture Galleries of the British Section. See Class 21.

Turtle & Pearce; Flag and Banner Manufacturers; 11, *Duke Street, London Bridge, London.*

One silk Royal Standard, one silk French Ensign, one Union Jack, one white Ensign.

Wigzell, Halsey, & Co.; Engineers and Ship-builders; 82, *Mark Lane, London. Works, Torpedo Wharf, Wandsworth, London.*

A Steel Torpedo Steam Launch for use on the River Seine. For description see Catalogue, Class 67; see also Class 54.

Winfield, R. W., & Co.; Manufacturers and Inventors; *Cambridge St. Works and Rolling Mills, Birmingham.*

The railing round the engine in the British Machinery Section. See Class 17.

Zimdars, C. E.; Manufacturer of Pneumatic Signal Apparatus; Inventor; 327, *Gray's Inn Road, London.*

Pneumatic Bells, for the use of the Royal Commission in the Pavillion of H.R.H. the Prince of Wales.

SYNOPSIS OF THE CLASSIFICATION.

GROUP I.—WORKS OF ART.

- CLASS 1. Oil Paintings.
 „ 2. Various Paintings and Drawings.
 „ 3. Sculpture and Die Sinking.
 „ 4. Architectural Drawings and Models.
 „ 5. Engravings and Lithographs.

GROUP II.—EDUCATION AND INSTRUCTION.—APPARATUS AND PROCESSES OF THE LIBERAL ARTS.

- CLASS 6. Education of Children. Primary Instruction. Instruction of Adults.
 „ 7. Organization and Appliances for Secondary Instruction.
 „ 8. Organization, Methods, and Appliances for Superior Instruction.
 „ 9. Printing and Books.
 „ 10. Stationery, Bookbinding ; Painting and Drawing Materials.
 „ 11. General Application of the Arts of Drawing and Modelling.
 „ 12. Photographic Proofs and Apparatus.
 „ 13. Musical Instruments.
 „ 14. Medicine, Hygiene, and Public Relief.
 „ 15. Mathematical and Philosophical Instruments.
 „ 16. Maps, and Geographical and Cosmographical Apparatus.

GROUP III.—FURNITURE AND ACCESSORIES.

- CLASS 17. Cheap and Fancy Furniture.
 „ 18. Upholsterers' and Decorators' Work.
 „ 19. Crystal, Glass, and Stained Glass.
 „ 20. Pottery.
 „ 21. Carpets, Tapestry, and other Stuffs for Furniture.
 „ 22. Paper Hangings.
 „ 23. Cutlery.
 „ 24. Goldsmiths' and Silversmiths' work.
 „ 25. Bronzes, various Art Castings, and Repoussé Work.
 „ 26. Clocks and Watches.
 „ 27. Apparatus and Processes for Heating and Lighting.
 „ 28. Perfumery.
 „ 29. Leather Work, Fancy Articles, and Basket Work.

GROUP IV.—TEXTILE FABRICS, CLOTHING AND ACCESSORIES.

- CLASS 30. Cotton Thread and Fabrics.
 „ 31. Thread and Fabrics of Flax, Hemp, etc.
 „ 32. Worsted Yarn and Fabrics.
 „ 33. Woollen Yarn and Fabrics.
 „ 34. Silk and Silk Fabrics.
 „ 35. Shawls.
 „ 36. Lace, Net, Embroidery, and Trimmings.
 „ 37. Hosiery and Under-clothing, and Accessories of Clothing.
 „ 38. Clothing of both sexes.
 „ 39. Jewellery and Precious Stones.
 „ 40. Portable Weapons and Hunting and Shooting Equipments.
 „ 41. Travelling Apparatus and Camp Equipage.
 „ 42. Toys.

GROUP V.—MINING INDUSTRIES, RAW AND MANUFACTURED PRODUCTS.

CLASS 43. Mining and Metallurgy.

- " 44. Products of the Cultivation of Forests and of the Trades appertaining thereto.
- " 45. Products of Hunting, Shooting, Fishing, and Spontaneous Products, Machines and Instruments connected therewith.
- " 46. Agricultural Products not used for Food.
- " 47. Chemical and Pharmaceutical Products.
- " 48. Chemical Processes for Bleaching, Dyeing, Printing, and Dressing.
- " 49. Leather and Skins.

GROUP VI.—APPARATUS AND PROCESSES USED IN THE MECHANICAL MANUFACTURES.

CLASS 50. Apparatus and Processes of the Art of Mining and Metallurgy.

- " 51. Agricultural Implements and Processes used in the Cultivation of Fields and Forests.
- " 52. Apparatus and Processes used in Agricultural Works, and in Works for the preparation of Food.
- " 53. Apparatus used in Chemistry, Pharmacy and Tanning.
- " 54. Machines and Apparatus in general.
- " 55. Machine Tools.
- " 56. Apparatus and Processes used in Spinning and Rope making.
- " 57. Apparatus and Processes used in Weaving.
- " 58. Apparatus and Processes for Sewing and for making up Clothing.
- " 59. Apparatus and Processes used in the Manufacture of Furniture and Objects for Dwellings.
- " 60. Apparatus and Processes used in Paper making, Dyeing, and Printing.
- " 61. Machines, Instruments, and Processes used in various works.
- " 62. Carriages and Wheelwrights' Work.
- " 63. Harness and Saddlery.
- " 64. Railway Apparatus.
- " 65. Telegraphic Apparatus and Processes.
- " 66. Apparatus and Processes of Civil Engineering, Public Works, and Architecture.
- " 67. Apparatus for Navigation and Life Saving.
- " 68. Materials and Apparatus for Military purposes.

GROUP VII.—ALIMENTARY PRODUCTS.

CLASS 69. Cereals, Farinaceous Products, and Products derived from them.

- " 70. Bread and Pastry.
- " 71. Fatty substances used as Food. Milk and Eggs.
- " 72. Meat and Fish.
- " 73. Vegetables and Fruit.
- " 74. Condiments and Stimulants, Sugar and Confectionery.
- " 75. Fermented Drinks.

GROUP VIII.—AGRICULTURE AND PISCICULTURE.

- CLASS 76. Specimens of Farm Buildings and Agricultural Works.
" 77. Horses, Donkeys, Mules, &c.
" 78. Oxen, Buffaloes, &c.
" 79. Sheep, Goats.
" 80. Pigs, Rabbits, &c.
" 81. Poultry.
" 82. Dogs.
" 83. Useful Insects and Noxious Insects.
" 84. Fish, Crustacea and Mollusca.

GROUP IX.—HORTICULTURE.

- CLASS 85. Conservatories and Horticultural Apparatus.
" 86. Flowers and Ornamental Plants.
" 87. Vegetables.
" 88. Fruit and Fruit Trees.
" 89. Seeds and Saplings of Forest Trees.
" 90. Plants for Conservatories.
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INDEX OR ALPHABETICAL LIST OF EXHIBITORS (EXCEPT FINE ARTS AND LIVE STOCK).

A.

Class.

83. ABBOTT, C. N.:
Fairlawn, Southall, near London.
66. ABERNANT IRONWORKS AND COLLIERIES CO.:
Glyn Neath, Glamorganshire, South Wales.
54. ADAIR AND CO.:
Neptune Street, Liverpool.
20. ADAMS AND BROMLEY:
Victoria Works, Broad Street, Hanley.
84. ADAMS AND CO.:
56a, City Road, London.
36. ADAMS, THOMAS, AND CO., LIMITED:
Stoney Street, Nottingham.
43. ADDIS, J. B., AND SONS:
Arctic Works, Sheffield.
60. ADIE, PATRICK:
15, Pall Mall, London.
19. AIRE AND CALDER GLASS BOTTLE CO. (E. BREFFIT
AND CO.):
83, Upper Thames Street, London.
39. AITCHISON, JAMES:
23, Princes Street, Edinburgh.
32. AKROYD, J., AND SON, LIMITED:
Halifax.
62. ALDEBERT, ISAAC:
57, 58, & 59, Long Acre, London.
64. ALDRED AND SPIELMANN:
40 & 42, Queen Victoria Street, London.
33. ALEXANDERS AND CO.:
Weensland Mills, Hawick, Scotland.
10. ALEXANDRE, J.:
York Row, York Street, Birmingham.
22. ALLAN, JOHN, AND SON:
Wick Lane Works, Old Ford Road, London.
45. ALLCOCK, SAMUEL, AND CO.:
Standard Works, Redditch.
47. ALLEN AND HANBURYs:
Plough Court, 87, Lombard Street, London.
74. ALLEN, FREDERICK, AND SONS:
Canal Road, Mile End, London.
37. ALLEN, SOLLY, AND CO.:
8, King Edward Street, Newgate Street, London.
14. ALLEN, THOMAS:
12, St. Augustine's Parade, Bristol.

Class.

20. ALLERTON, CHAS., AND SONS :
Park Works, Longton, Staffordshire.
54. ALLEY AND MACLELLAN:
Sentinel Works, London Road, Glasgow.
63. ALLSOPP, CHARLES WILLIAM, AND CO.:
47, Pool Street, Walsall.
38. ANDERSON, ABBOTT, AND ANDERSON:
37, Queen Victoria Street, London.
66. ANDERSON, DAVID, AND SON:
Lagan Felt Works, Belfast.
64. ANDERSON, CHRIS.:
Hunslet Shed, Hunslet, Leeds.
34. ANDREW, BURROWES, AND ATKINS :
59, George Street, Manchester.
43. ANDREW, JOHN HENRY, AND CO.:
Toledo Steel Works, Neepsend, Sheffield.
31. ANDREWS, MICHAEL :
Ardoyne, Belfast.
31. ANGLO-AMERICAN ROPE AND OAKUM CO.:
(STEPHENSON AND MORGAN):
72, South Castle Street, Liverpool.
75. ANGLO-BAVARIAN BREWERY CO.:
Shepton Mallet, Somerset.
43. ANGLO-RUSSIAN IRON AND TIN PLATE CO.:
18, New Bridge Street, London.
54. APPLEBY BROTHERS:
Emerson Street, Southwark, London.
37. APPLEYARD, H., AND CO. :
36, Lower Sackville Street, Dublin.
67. ARMIT, R. H., R.N.
10, Craven Street, Strand, London.
33. ARMITAGE BROTHERS:
New Street, Huddersfield.
30. ARMITAGE, ELKANAH, AND SONS:
Manchester.
38. ARNOLD AND COLDWELLS:
78 and 79, North End, Croydon, Surrey.
24. ART UNION OF LONDON:
444, West Strand, London.
75. ARTHUR, J., AND CO.:
4, Nicholas Parade, Bristol.
43. ASH AND LACY:
Meriden Street, Birmingham.
43. ASHENHURST, J. T., AND CO.:
51, Cardington Street, Hampstead Road, London.
63. ASHFORD, (W. AND G.), AND WINDER:
Essex and Kent Streets, Birmingham.
48. ASHTON, F. W., AND CO.:
45, Portland Street, Manchester.
30. ASHWORTH, EDMUND, AND SONS:
Egerton Mills, Bolton, Lancashire.
34. ASHWORTH, M., AND CO.:
Caldershaw Silk Mill, Rochdale.
37. ASTON, WILLIAM :
Princip Street Works, Birmingham.

Class.

47. ATKINSON, GEO., AND CO.:
66, Aldersgate Street, London.
28. ATKINSON, J. & E.:
24, Old Bond Street, London.
9. AUGENER AND CO.:
86, Newgate Street, London.
19. AURORA GLASS CO., LIMITED:
21, Litchfield Street, Soho, London.
12. AUTOTYPE CO.:
36, Rathbone Place, London.
- 51, 54. AVELING AND PORTER:
Rochester, Kent.
43. AVERY, WM., AND SON:
Headless Cross, Redditch.

B.

27. BACON, J. L., AND CO.:
84, Upper Gloucester Place, London.
19. BAGLEY, WILD, AND CO.:
Glass Works, Knottingly, Yorkshire.
62. BAGSHAW, FRANCIS WILLIAM:
Hill Foot Bicycle Works, Sheffield.
- 9, 10. BAGSTER, S., AND SONS:
14, Kings Road, Gray's Inn Road, London.
60. BAILEY BROTHERS:
71, Chancery Lane, London.
20. BAILEY, W. AND J. A.:
Alloa, Scotland.
66. BAINBRIDGE AND CRIMSON:
Oakwell Gate, Gateshead-on-Tyne.
47. BAISS, BROTHERS, AND CO.:
4, Jewry Street, Aldgate, London.
43. BAKER, CHRISTOPHER, AND SONS:
98 and 99, Lichfield Street, Birmingham.
51. BAKER, JOHN:
Falcon Works, Wisbech.
51. BAKER, THOS.:
White Wall Iron Works, Compton, Newbury, Berks.
43. BALDWIN, E. P. AND W.:
Wilden Iron and Tin Plate Works, near Stourport.
51. BALL, WILLIAM, AND SON:
Bothwell, Northamptonshire.
74. BALL, JAMES:
12, Duke Street, Grosvenor Square, London.
67. BALLARDIE, DOUGALD:
2, West Howard Street, Glasgow.
75. BALLINGALL AND SON:
Pleasance Brewery, Dundee.
51. BAMLETT, ADAM C.:
Thirsk, Yorkshire.
75. BANBURY BREWERY CO.:
Bridge Street, Banbury.
83. BARBER, JOSHUA, AND SONS:
Huddersfield.

Class.

34. BARBOUR AND MILLER:
139, Brook Street, Mile End, Glasgow.
31. BARBOUR, WILLIAM, AND SON:
Hilden Flax Mills, Lisburn, Ireland.
43. BAREFF, FREDERICK S.:
Catholic University College, Kensington, London.
51. BARFORD AND PERKINS:
Queen Street Iron Works, Peterborough.
30. BARLOW AND JONES, LIMITED:
2, Portland Street, Manchester.
- 25, 85. BARNARD, BISHOP, AND BARNARDS:
Norfolk Iron Works, Norwich.
17. BARNARD, BRADLEY:
107, St. Paul's Road, Highbury, London.
72. BARNES AND CO.:
137, Upper Thames Street, London.
64. BARNES, FREDERIC:
Westwood Grange, Tylehurst, Reading.
52. BARNETT, SON, AND FOSTER:
20-23, Forston Street, Hoxton, London.
70. BARR, P. W., AND CO.:
Juniper Street, Bankhall, Liverpool.
13. BARRATT AND ROBINSON:
9a, Georgiana Street, Camden Town, London.
74. BARRINGER AND BROWN:
Rock Valley Mills, Mansfield.
31. BARRON, W. J., AND SONS:
Whitecross Street, London.
31. BARROW FLAX AND JUTE CO., LIMITED:
Barrow-in-Furness, Lancashire.
67. BARROW SHIPBUILDING CO.:
Barrow-in-Furness.
51. BARROWS AND STEWART:
Cherwell Works, Banbury.
16. BARTHOLOMEW, JOHN:
Chambers Street, Edinburgh.
- 43, 45. BARTLEET, WILLIAM, AND SONS:
Abbey Mills, Redditch.
38. BARTRUM, HARVEY, AND CO.:
23, Gresham Street, London.
47. BASHFORD, G. J. St. JOHN:
91, Rivington Street, Shoreditch, London.
56. BATEMAN, DANIEL, AND SONS:
Low Moor, near Bradford, Yorkshire.
20. BATES, WALKER, AND CO.:
Dale Hall, Burslem.
74. BATTY AND CO.:
8, Finsbury Place, London.
12. BAUDOUX, CHARLES ERNEST:
59, New Street, St. Helier's, Jersey.
37. BAUER, Mrs. A. W.:
64, Oxford Street, London.
13. BAUER, GILBERT L.:
49, Tottenham Street, Tottenham Court Road, London.
38. BAXTER, RICHARD:
St. James's Green, Thirsk, Yorkshire.

Class.

66. BAXTER, ROBERT C. :
Hethersett, Reigate, Surrey.
52. BAXTER, WILLIAM HENRY :
2, The Lawn, Brixton Hill, London.
43. BEARDSHAW, HERBERT :
Prior Court, Sheffield.
12. BEAU, ADOLPHE :
56, Welbeck Street, London.
54. BEAUMONT, COLONEL, Royal Engineers, and BOLTON,
COLONEL :
4, Broad Sanctuary, Westminster, London.
58. BECK, WILLIAM HENRY :
139, Cannon Street, London.
47. BEDDOW, B., AND SON :
22, South Audley Street, London.
43. BEDFORD, JOHN, AND SONS :
Lion Works, Sheffield.
12. BEDFORD, WILLIAM :
326, Camden Road, London.
34. BEHRENS, LOUIS :
41, Portland Street, Manchester.
15. BELL, PROFESSOR ALEX. G. :
115, Cannon Street, London.
54. BELL, J. M., AND CO. :
491, Oxford Street, London.
26. BENNETT, SIR JOHN :
64 & 65, Cheapside, London.
43. BENNETT, THOS., AND SONS :
70 and 71, Turnmill Street, Farringdon Road, London.
52. BENTALL, E. H., AND CO. :
Heybridge Works, Maldon, Essex.
47. BERGER, LEWIS, AND SONS :
Homerton, London.
69. BERGER, SAMUEL, AND CO. :
Starch Works, Bromley-by-Bow, London.
54. BERNAYS, JOSEPH :
96, Newgate Street, London.
67. BERTHON BOAT CO., LIMITED :
30, Bedford Row, London.
17. BERTRAM AND SON :
100 and 101, Dean Street, Soho, London.
66. BESSBROOK GRANITE CO. :
Beasbrook, Ireland.
10. BEST INK CO. :
48, Edgware Road, London.
66. BETHELL, JOHN, AND CO. :
88, King William Street, City, London.
- 24, 26, 29. BETJEMANN, GEORGE, AND SONS :
36, 38, and 40, Pentonville Road, London.
75. BEVAN, JOHN JAMES :
1, Bath Terrace, Farnham, Surrey.
47. BEWLEY AND DRAPER :
23, Mary Street, Dublin.
67. BIFFEN, WILLIAM HENRY, JUN. :
7, Commercial Road, Bedford.

Class.

75. BINDLEY AND CO.:
The Brewery, Burton-on-Trent.
32. BINN'S ENDLESS BAND CO., LIMITED:
Oak Mills, Low Moor, Bradford.
38. BIRCHALL, J. D., AND CO.:
Wellington Street, Leeds.
34. BIRCHENOUGH, JOHN:
145, Cheapside, London.
43. BIRD, WILLIAM, AND CO.:
2, Laurence Pountney Hill, London.
38. BIRNBAUM, BERNARD:
21, 22, and 23, New Broad Street, London.
67. BIRT, J. AND A. W.:
Dock Street, London.
9. BLACK, A. AND C.:
Edinburgh.
64. BLACK, HAWTHORN, AND CO.:
Gateshead-on-Tyne.
10. BLACKIE AND SON:
17, Stanhope Street, Glasgow.
9. BLACKIE, W. G., AND CO.:
Villafield Works, Glasgow.
38. BLACKLOCK, GOUDIE, AND CO.:
69, Jamaica Street, Glasgow.
10. BLACKWOOD AND CO.:
18, Bread Street Hill, London.
9. BLACKWOOD, W., AND SONS:
45, George Street, Edinburgh.
60. BLADES, EAST, AND BLADES:
11, Abchurch Lane, City, London.
57. BLEZARD, J., AND SONS:
Guy Foundry, Padiham, Lancashire.
63. BLISS, WILLIAM, AND CO.:
13 and 15, Sun Street, Finsbury, London.
33. BLISS, WILLIAM, AND SON:
Chipping Norton.
75. BOAKE AND CO.
Stratford, near London.
51. BOBY, ROBERT:
St. Andrew's Works, Bury St. Edmunds.
33. BOGUE, LEES, AND CO.:
Comely Bank Mill, Galashiels, Scotland.
10. BOND, Mrs. M. A. (now HICKISSON):
75, Southgate Road, London.
- 31, 34. BONSOR, CHARLES:
Phoenix Works, Ings Road, Wakefield.
38. BOSTOCK, EDWIN AND FREDERICK:
Stafford and Northampton.
12. BOUCHER, ALBERT:
15, King's Road, Brighton.
21. BOULINIKON FLOOR CLOTH AND MANUFACTURING CO.,
LIMITED:
Worsley Street, Salford, Manchester.
85. BOULTON AND PAUL:
Rose Lane Works, Norwich.

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62. **BOURKE, SURGEON-MAJOR J. H., M.D. :**
Care of Vesey W. Holt & Co., 17, Whitehall Place, London.
54. **BOURNE, JOHN, AND CO. :**
66, Mark Lane, London.
47. **BOWDLER AND BICKERDIKE :**
Eagle Chemical Works, Church, Lancashire.
54. **BOWING'S PATENT FILTER PRESS CO., LIMITED :**
184, Gresham House, Old Broad Street, London.
10. **BOWMAN, C. :**
6, King Street, Tower Hill, London.
63. **BOWN, W. :**
308, Summer Lane, Birmingham.
85. **BOYD, JAMES, AND SONS :**
Macdowall Street, Paisley.
47. **BOYD, SON, AND CO. :**
76, Sir John Rogerson's Quay, Dublin.
15. **BOYD, —.**
236, Rue de Rivoli, Paris.
66. **BOYLE, ROBERT, AND SON :**
100, Mitchell Street, Glasgow.
43. **BRABY, FREDERICK, AND CO. :**
356 to 360, Euston Road, London.
58. **BRADBURY AND CO., LIMITED :**
Wellington Works, Oldham.
- 52, 54. **BRADFORD, THOMAS, AND CO. :**
Crescent Iron Works, Salford, Manchester.
50. **BRAKELL, C. :**
7, Westminster Chambers, Victoria Street, London.
- 73, 74. **BRAND AND CO. :**
11, Little Stanhope Street, Mayfair, London.
- 12, 67. **BRICE, WILLIAM A. :**
Care of Clifford Poulter, 4a, Middle Temple Lane, London.
33. **BRIER, GEORGE :**
Canal Bridge Mills, Huddersfield.
38. **BRIGHTMAN BROTHERS :**
Lewin's Mead, Bristol.
13. **BRINSMEAD, JOHN, AND SONS :**
18, Wigmore Street, London.
21. **BRINTON, JOHN, AND CO. :**
Kidderminster.
62. **BRISTOL WAGGON WORKS CO., LIMITED :**
Lawrence Hill, Bristol.
9. **BRITISH AND FOREIGN BIBLE SOCIETY :**
146, Queen Victoria Street, London.
47. **BRITISH AND FOREIGN MINERAL WATER CO. :**
382, New City Road, Glasgow.
65. **BRITISH TELEGRAPH MANUFACTORY, LIMITED :**
374, Euston Road, London.
29. **BRITISH XYLONITE CO., LIMITED :**
124, High Street, Homerton, London.
50. **BROADBENT, ROBERT, AND SON :**
Phoenix Iron Works, Stalybridge.
34. **BROCKLEHURST, J. T., AND SONS :**
Macclesfield.

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39. BROGDEN, JOHN:
16, Henrietta Street, Covent Garden, London.
 83. BROOK, J. & D. :
4, Park Place, Leeds.
 30. BROOK, JONAS, AND BROTHERS:
Meltham Mills, near Huddersfield.
 66. BROOKE, EDWARD, AND SONS:
Fieldhouse Fire-clay Works, Huddersfield.
 33. BROOKE, JAMES, AND SON:
Bradley Mills, Huddersfield.
 47. BROOKE, SIMPSON, AND SPILLER:
50, Old Broad Street, London.
 23. BROOKES AND CROOKES:
Atlantic Works, Sheffield.
 13. BROOKS, ROBERT:
Houghton Regis, Bedfordshire.
 9. BROOKS (VINCENT), DAY, AND SON:
Gate Street, Lincoln's Inn Fields, London.
 47. BROOMHEAD, GEORGE E. :
11, Union Place, Aberdeen.
 48. BROOMHILL COAL CO. :
Newcastle-on-Tyne.
 34. BROUGH (J. AND J.), NICHOLSON, AND CO.:
Leek, Staffordshire.
 54. BROUGHTON COPPER CO., LIMITED:
Broughton Copper Works, Manchester.
 43. BROWN, BAYLEY, AND DIXON, LIMITED :
Steel and Iron Works, Sheffield.
 54. BROWN, B. AND J., AND CO.:
39, Charlotte Street, Blackfriars Road, London.
 17. BROWN BROTHERS (Late W. SCOTT MORTON AND CO.) .
Caledonian Crescent, Dalry Road, Edinburgh.
 33. BROWN BROTHERS :
Buckholm Mill, Galashiels.
 47. BROWN, EDWARD, AND SONS :
67, Princes Street, Leicester Square, London.
 68. BROWN, JOHN, AND CO., LIMITED :
Atlas Steel and Iron Works, Sheffield.
 51. BROWN, J. B., AND CO. :
90, Cannon Street, London.
 33. BROWN, JOHN:
Lion Mills, Bay Hall, Huddersfield.
 83. BROWN, LINSTED, AND CO.:
4, Duke Street, Manchester.
 13. BROWN, RICHARD, AND SON:
324, Kennington Road, London.
 33. BROWN, WILLIAM, AND SONS :
Wilderbank Mills, Galashiels, Scotland.
 20. BROWNHILLS POTTERY CO.:
Tunstall, Staffordshire.
 12. BROWNRIGG, T. M. :
Artington House, Guildford.
 20. BROWN-WESTHEAD (T. C.), MOORE, AND CO.:
Cauldon Place, Staffordshire Potteries.

Class.

9. BRUCKMANN, F.:
17, Southampton Street, Strand, London.
67. BRUNE AND CO.:
Eden Street, Hampstead Road, London.
50. BRUNTON, WM., AND CO.:
Cambrian Safety Fuse Works, Wrexham.
50. BRUNTON, AND TRIER:
Ransome's Foundry, Battersea.
33. BRYDONE AND BROWN:
Yarrow Mill, Selkirk.
52. BUCHANAN, G., AND CO.:
25, Bucklersbury, London.
45. BUCHANAN, JAMES:
58, Dale Street, Tradeston, Glasgow.
10. BUCKINGHAMSHIRE MILLBOARD CO.:
The Lower Mills, Wooburn.
33. BULL AND WILSON:
52, St. Martin's Lane, London.
66. BULLIVANT, THOS.:
104, Ledbury Road, Bayswater, London.
38. BURBIDGE AND ROWLEY:
Middle Street, Aldersgate Street, London.
51. BURGESS AND KEY:
Holborn Viaduct, London.
66. BURGH CASTLE PORTLAND CEMENT CO., LIMITED:
Burgh Castle, Great Yarmouth.
47. BURGOYNE, BURBIDGES, CYRIAX, AND FARRIES:
16, Coleman Street, London.
51. BURNARD, LACK, AND ALGER:
Plymouth.
52. BURNEY AND CO.:
Millwall Docks, London.
43. BURNHOPE COAL CO.:
Newcastle-on-Tyne.
43. BURYS AND CO., LIMITED:
Regent Works, Sheffield.
50. BUSH AND DE SOYRES:
Bristol Iron Foundry, St. Philip's, Bristol.
62. BUSH, JOHN, AND CO.:
200, Camberwell Road, London.
- 47, 74. BUSH, WILLIAM JOHN, AND CO.:
20 to 23, Artillery Lane, Bishopsgate Street, London.
21. BUTCHART, LINDSAY, AND CO.:
Linen Works, Dundee.
33. BYROM, ROBERT:
Slackcote Mills, Delph, near Manchester.

C.

Class.

18. CAIRNS, PETER :
4, Livingston Place, Portobello, near Edinburgh.
74. CALLARD AND BOWSER :
20, Finchley Road, London.
43. CAMBRIAN PATENT FUEL CO., LIMITED :
Masonic Hall Chambers, Cardiff, South Wales.
- 19, 18. CAMM BROTHERS :
41, Frederick Street, Birmingham.
68. CAMMELL, C., AND CO., LIMITED :
Cyclops Works, Sheffield.
20. CAMPBELL BRICK AND TILE CO. :
Stoke-upon-Trent.
66. CAMPBELL, HUGH, AND SON :
Moor Quarries, Newry, Ireland.
66. CANDY AND CO. :
Chudleigh Road Station, Newton Abbot, Devon.
47. CANTRELL AND COCHRANE :
Nassau Place, Dublin.
17. CAPEL, HENRY :
26, Great Titchfield St., London.
30. CARLILE, JAMES, SONS, AND CO. :
Bankend Mills, Paisley.
33. CARR, ISAAC, AND CO. :
Twerton Mills, Bath.
52. CARR, THOMAS, Trustees of the late :
39, Broad Street, Bristol.
47. CARRUTHERS AND ALLAN :
60, Robertson Street, Glasgow.
51. CARSON AND TOONE :
Wiltshire Foundry, Warminster.
52. CARTER, J. HARRISON :
82, Mark Lane, London.
85. CARTER, DUNNETT, AND BEALE :
High Holborn, London.
85. CASHMERE, MAHARAJAH OF.
Sirinaghar, Cashmere, India.
48. CASTLE IRON CO. (*See* NETTLEFOLDS) :
16, Broad Street, Birmingham.
75. CATTO, JAMES :
21½, Adelphi, Aberdeen.
- 29, 41. CAVE, H. J., AND SONS :
40, Wigmore Street, London.
15. CETTI, E., AND CO. :
11 and 31, Brooke Street, Holborn, London.
67. CHADBURN AND SON :
11, Waterloo Road, Liverpool.
63. CHALLEN AND SON :
20, Oxford Street, London.
69. CHAMBERLIN, JAMES :
Post Office Street, Norwich.
43. CHAMBERS, G., AND CO. :
Redditch.*

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47. CHAMBERS, JAMES, AND CO. :
73, Great Tower Street, London.
13. CHANOT, GEORGE :
103, Wardour Street, London.
29. CHAPMAN, SON, AND CO. :
2 and 3, Charterhouse Buildings, London.
66. CHATWOOD, SAMUEL :
120, Cannon Street, London.
66. CHEAVIN, GEORGE :
Wide Bargate Filter Works, Boston, Lincolnshire.
33. CHILD, WILLIAM :
Shelley, near Huddersfield.
70. CHRISTIE AND CO. :
Royal Mint Street, City, London.
63. CHRISTIE, WILLIAM :
35, Station Street, Walsall.
38. CHRISTY, J. E. AND W., AND CO. :
35, Gracechurch Street, London.
86. CHRISTY, THOMAS, & CO. :
155, Fenchurch Street, London.
86. CHRISTY, THOMAS, F.L.S. :
155, Fenchurch Street, London.
30. CHRISTY, W. M., AND SONS, LIMITED :
14, West Mosley Street, Manchester.
- 24, 25, 66. CHUBB AND SON :
128, Queen Victoria Street, London.
34. CLABBURN, SONS, AND CRISP :
Pitt Street, Norwich.
71. CLANCHY, T. J. :
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66. CLARK AND CO. :
Rathbone Place, Oxford Street, London.
30. CLARK AND CO. :
Anchor Mills, Paisley.
30. CLARK, J., AND CO. :
Paisley Thread Works, Paisley.
33. CLARK, JOHN AND THOMAS :
Trowbridge.
49. CLARK, SON, AND MORLAND :
Glastonbury.
43. CLARK, T. AND C., AND CO. :
Shakespeare Foundry, Wolverhampton.
68. CLARK, CAPTAIN EDWARD PODMORE :
33, Green Park, Bath.
68. CLARK, WILLIAM :
232, Oxford Street, London.
11. CLARKE, C. PURDON :
16, Earl's Court Gardens, Brompton, London.
48. CLARKE, HENRY, & CO. :
17, Gracechurch Street, London.
70. CLARKE, W. G. :
Regent's Canal, Commercial Road, Limehouse, London.

Class.

- 51, 54. CLAYTON AND SHUTTLEWORTH:
Lincoln.
34. CLAYTON, MARSDENS, HOLDEN, AND CO., LIMITED:
Wellington Mills, Halifax.
28. CLEAVER, F. S., AND SONS:
32 and 33, Red Lion Street, Holborn, London.
38. CLEGG, JESSE:
King's Head Buildings, Huddersfield.
48. CLEVELAND IRONMASTERS' ASSOCIATION, AND NORTH
OF ENGLAND IRON MANUFACTURERS' ASSOCIATION:
Royal Exchange, Middlesbrough.
66. CLIFF, JOSEPH, AND SONS:
Fire Clay Works, Wortley, Leeds.
25. COALBROOKDALE CO. :
Coalbrookdale, Shropshire.
30. COATS, J. AND P. :
Ferguslie Thread Works, Paisley.
33. COCHRANE, ADAM L., AND BROTHERS:
Netherdale, Galashiels, Scotland.
57. COCKILL, JOHN, AND SONS:
Liversedge, Yorkshire.
62. COCKSHOOT, JOSEPH, AND CO.:
Manchester.
52. CODD, HIRAM, AND CO.:
51, King William Street, City, London.
54. COHNÉ, SIGISMUND:
13, Sise Lane, London.
8. COLE, ARTHUR C., AND SON:
St. Domingo House, Oxford Gardens, Notting Hill, London.
51. COLEMAN AND MORTON:
London Road Iron Works, Chelmsford, Essex.
9. COLLINGRIDGE, W. II. AND L. :
128 and 129, Aldersgate Street, London.
- 18, 66. COLLINSON AND LOCK:
169, Fleet Street, London.
6. COLMAN AND GLENDENNING:
23, Warwick Lane, London.
- 47, 52, 69, 74. COLMAN, J. AND J. :
108, Cannon Street, London.
41. COLTMAN, WILLIAM:
332, High Street, Cheltenham.
66. COLTHURST, SYMONS, AND CO.:
Bridgewater.
43. COLVER BROS. :
Pilot Works, Sheffield.
56. COMBE, BARBOUR, AND COMBE:
Falls Foundry, Belfast.
43. COMPAGNIE HOULLIÈRE DE GRAIGOLA.
Merthyr, Swansea.
19. CONSTABLE, WILLIAM HENRY:
The Avenue, Cambridge.
- 47, 51. COOK, EDWARD, AND CO.:
East London Chemical Works, Bow, London.
43. COOKE BROTHERS:
Constitution Hill, Birmingham.

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50. COOKE, JOSEPH, AND CO.:
Lawley Street, Belmont Passage, Birmingham.
21. COOKE, SONS, AND CO.:
12, Friday Street, City, London.
18. COOPER, H. AND J.:
8 and 9, Great Pulteney Street, Golden Square, London.
49. COOPER, FREDERICK E.:
29, Crimscoot Street, Bermondsey, London.
62. COOPER, JAMES CHARLES:
111, Long Acre, London.
20. COPELAND, W. T., AND SONS:
160, New Bond Street, London.
36. COPESTAKE, HUGHES, CRAMPTON, AND CO.:
5, Bow Church Yard, City, London.
52. COPPARD, JOHN, AND CO.:
Albion Works, Devonshire Street, Soho, Birmingham.
51. CORBETT AND PEELE:
Perseverance Iron Works, Shrewsbury.
43. CORBETT, JOHN, M.P.:
Stoke Prior Salt Works, Bromsgrove, Worcestershire.
21. CORBIÈRE, SON, AND BRINDLE:
30, Cannon Street, London.
52. CORCORAN, WITT, AND CO.:
28, Mark Lane, London.
75. CORK DISTILLERIES' CO., LIMITED:
Morrison's Island, Cork, Ireland.
10. CORNELISSEN, L., AND SON:
22, Great Queen Street, Lincoln's Inn, London.
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Park Mills, Macclesfield.
47. CORRY, WILLIAM, AND CO.:
Cromac Street, Belfast.
21. CORTICINE FLOOR COVERING CO.:
112, Queen Victoria Street, London.
56. COTTON, STEPHEN:
Brookfield Foundry, Belfast.
51. COULTAS, JAMES:
Perseverance Ironworks, Spittlegate, Grantham.
31. THE COUNTY DOWN FLAX SPINNING AND WEAVING CO.,
LIMITED:
Donegall Square South, Belfast.
34. COURTAULD, SAMUEL, AND CO.:
19, Aldermanbury, London.
10. COWAN, ALEXANDER, AND SON:
50, Cannon Street, London.
58. COWAN, W. AND B.:
Church Street, Millbank, London.
57. CRAIG, A. F., AND CO.:
Caledonia Engine Works, Paisley.
38. CRAIG, CHRISTIE, AND CO.:
23, Potterrow, Edinburgh.
43. CRAMLINGTON COAL CO.:
Newcastle-on-Tyne.
20. CRAVEN, DUNNILL, AND CO., LIMITED:
Jackfield Works, near Ironbridge, Salop.

Class.

30. CREWDSON, CROSSES, AND CO., LIMITED:
40, Portland Street, Manchester.
8. CRISP, EDWARDS, M.D.:
16, Beaufort Street, Chelsea, London.
67. CRISPIN, WILLIAM HENRY:
Marsh Gate Lane, Stratford, London.
34. CRITCHLEY, BRINSLEY, AND CO.:
Macclesfield.
10. CROMPTON, JAMES R.:
Elton Paper Mills, Bury, Lancashire.
72. CROSSE AND BLACKWELL:
21, Soho Square, London.
56. CROSSLEY (JOHN) AND SONS, LIMITED:
Dean Clough Mills, Halifax, Yorkshire.
15. CROUCH, HENRY:
66, Barbican, London.
39. CROUCH, JOSEPH M.:
208 and 221, Regent Street, London.
39. CROUCH, WM. ALBERT:
264, Regent Street, London.
52. CROWLEY, JOHN, AND CO.:
Meadow Hall Ironworks, Sheffield.
28. CROWN PERFUMERY CO. (W. S. THOMSON):
177, New Bond Street, London.
66. CUBITT, WILLIAM, AND CO.:
258, Grays' Inn Road, London.
67. CUNARD, BURNS, AND MAC IVER:
8, Water Street, Liverpool.
38. CUNNINGHAM (ALEXANDER) AND CO.:
230, Leith Walk, Edinburgh.
67. CUNNINGHAM, SHAW, AND CO.:
24, Water Street, Liverpool.
74. CURR, THOMAS:
7, School Hill, Aberdeen.
38. CURRIE, WILLIAM, AND CO.:
Dalry Road, Edinburgh.
66. CWMORTHIN SLATE CO., LIMITED:
Portmadoc, North Wales.

D.

30. DACCA TWIST CO.:
96-104, Portland Street, Manchester.
48. DALGLISH (R.), FALCONER, AND CO.:
Glasgow.
- 12, 15. DALLMEYER, JOHN HENRY:
19, Bloomsbury Street, London.
33. DALZIEL, JAMES, AND CO.:
Tweedholm Mill, Walkerburn, Scotland.
39. DAMON, ROBERT:
4, Pulteney Buildings, Weymouth.
10. DANE AND CO.:
33, Bouvée Street, London.

Class.

9. DANGERFIELD, FREDERICK :
22, Bedford Street, Covent Garden, London.
20. DANIELL, A. B., AND SON:
46, Wigmore Street, London.
8. DARRAGH, THOMAS:
7, College Square North, Belfast.
15. DARTON, F., AND CO. :
45, Saint John Street, West Smithfield, London.
51. DAVEY, PAXMAN, AND CO. :
Colchester.
52. DAVIES AND SNEADE:
19 and 21, Cheapside, Liverpool.
50. DAVIES, DAVID :
Viaduct Works, Crumlin, near Newport, Mon.
63. DAVIS AND WILSON:
37 and 38, Sun Street West, Birmingham.
52. DAVIS'S EXCELSIOR KNIFE CLEANING MACHINE CO. :
69, Leadenhall Street, London.
23. DAVIS, J. C. :
69, Leadenhall Street, London.
31. DAWSON, MARK, AND SON:
Springhead Mills, Bowling, Bradford.
34. DEAN, WILLIAM, AND SON:
Monk Street Mills, Derby.
37. DEBENHAM AND FREEBODY:
27, 29, 31, Wigmore Street, London.
49. DEED, JOHN S., AND SONS:
451, Oxford Street, London.
52. DELL, W. R., AND SON:
26, Mark Lane, London.
66. DE MICHELE, VICTOR D. :
Cliffe Creek, Rochester.
33. DENHAM, W., AND CO. :
Britannia Mills, Colne Road, Huddersfield.
51. DENTON, HENRY:
St. Peter's Ironworks, Wolverhampton.
36. DE ROTHSCHILD, LADY :
Tring Park, Tring, Hertfordshire.
47. DESOTO ALKALI CO., LIMITED:
Widnes, Lancashire.
43. DEVON GREAT CONSOLS CO., LIMITED:
134, Gresham House, Old Broad Street, City, London.
30. DEWHURST, JOHN, AND SONS:
Belle Vue Mills, Skipton.
54. DEWRANCE, JOHN, AND CO. :
176, Great Dover Street, Southwark, London.
43. DIAMOND FUEL CO., LIMITED:
23, Old Broad Street, London.
50. DIAMOND ROCK BORING COB. OF LONDON:
4, Broad Sanctuary, Westminster, London.
74. DICKINSON BROTHERS AND CO. :
4, Fenchurch Buildings, London.
43. DICKSON, WILLIAM, AND CO. :
Gilmore Park, West Fountainbridge, Edinburgh.

Class.

29. DIXIE, Mrs. MARGARET:
13, Wilmington Square, London.
49. DIXON, JOHN, SONS, AND TAYLOR:
Manning Street, Bermondsey, London.
56. DOBSON AND BARLOW:
Kay Street Works, Bolton.
54. DOBSON, THOMAS SAMUEL, AND CO.:
Stoney Street, Nottingham.
54. DODMAN, ALFRED:
St. James's Iron Works, King's Lynn.
33. DODGSHUN, ISAAC, AND CO.:
86, Basinghall Street, Leeds.
15. DOLLOND AND CO.:
1, Ludgate Hill, London.
32. DONISTHORPE, A. R.:
Leicester.
32. DORRINGTON, B., AND CO.:
42 & 43, Gutter Lane, London.
- 20, 66. DOULTON AND CO.:
High Street, Lambeth, London.
- 20, 53, 66. DOULTON AND WATTS:
Lambeth Pottery, London.
- 20, 66. DOULTON, H., AND CO.:
High Street, Lambeth, London.
- 46, 85. DRAPER, JOHN:
22, Great Winchester Street, London.
13. DREAPER, W. H. AND G. H.:
96, Bold Street, Liverpool.
42. DRISCOLL, HENRY:
Steam Mills, Baron Street, Pentonville, London.
61. DUGGAN, THOMAS:
Howth View, Glasnevin, Dublin.
66. DUNBALL STEAM POTTERY TILE AND BRICK CO.:
Dunball, Bridgewater.
67. DUNLOP, R. H. WALLACE, C.B.:
12, Kent Gardens, Ealing, Middlesex.
66. DUNNACHIE, JAMES:
Glenboig Star Fire-brick Works, near Coatbridge, Scotland.
10. DUNN AND CO.:
31, Bouverie Street, Fleet Street, London.
74. DUNN AND HEWETT:
136, Pentonville Road, London.
75. DUNVILLE AND CO.:
Belfast, Ireland.
52. DUVALLOD AND LLOYD:
Atlas Works, Oozell Street, Birmingham.
83. DYSON, JOSEPH, AND SONS:
Huddersfield.

E.

59. EAGLES, THOMAS D.:
23, Fenchurch Street, London.
67. EAST AND WEST INDIA DOCK CO. (J. L. DU PLAT TAYLOR,
Secretary):
Dock House, Billiter Square, London.

Class.

52. EASTWOOD, JAMES, AND CO., LIMITED:
Bold Street, Preston, Lancashire.
18. EBBUTT, ALFRED C.:
(Opposite the Town Hall), Croydon, Surrey.
38. EDDISON, THOMAS:
Junction Works, Whitehall Road, Leeds.
64. EDGE, CHARLES A.:
21, Bennett's Hill, Birmingham.
41. EDGINGTON, BENJAMIN:
2, Duke Street, London Bridge, London.
69. EDMUNDS AND CATER:
38, Craven Road, Bayswater, London.
66. EDWARDS, GEORGE:
147, Broxapton Road, London.
20. EDWARDS, JOHN:
King Street, Fenton, Staffordshire.
54. EDWARDS, WILLIAM JOHN:
20, Market Place, Manchester.
40. ELEY BROTHERS, LIMITED:
254, Gray's Inn Road, London.
24. ELKINGTON AND CO.:
Newhall Street, Birmingham.
12. ELLIOTT AND FRY:
55, Baker Street, London.
64. EMBLETON, MACKENZIE, AND CO.:
10, Arthur Street, London Bridge, London.
12. ENGLAND, WILLIAM:
7, St. James's Square, Notting Hill, London.
9. ENOCH AND SONS:
19, Holles Street, Cavendish Square, London.
10. ERHARDT, H., AND CO.:
9, Bond Court, Walbrook, London.
30. ERMEN AND ROBY:
7, Southgate, Manchester.
52. ETZENSBERGER, ROBERT U.:
The Midland Grand Hotel, London.
34. EVANS, DAVID, AND CO.:
1, Wood Street, Cheapside, London.
48. EVANS, D., AND H. C.:
Ferryside Chambers, Swansea.
49. EVANS, P. AND S., AND CO.:
Avonside Tannery, Bristol.
75. EVANS, RICHARD, AND CO.:
Wrexham.
30. EVANS, WALTER, AND CO.:
Boar's Head Cotton Manufactory, Derby.
43. EVANS, EDWARD:
Blue Stone Quarry, Nantglyn, Denbigh, North Wales.
47. EVERETT AND CO.:
51, Fetter Lane, London.
43. EVERITT, ALLEN, AND SONS:
Kingston Metal Works, Birmingham.
66. EWART, RICHARD:
Ravensthorpe, Yorkshire.

F.

Class.

54. **FAIJA, HENRY :**
4, Great Queen Street, Westminster, London.
56. **FAIRBAIRN, KENNEDY, AND NAYLOR:**
Leeds.
64. **FAIRLIE ENGINE CO.:**
Palace Chambers, Victoria Street, Westminster, London.
27. **FALKIRK IRON CO.:**
67, Upper Thames Street, London.
35. **FARMER AND ROGERS:**
171, Regent Street, London.
51. **FARMER, THOMAS, AND CO.:**
Dunster House, Mark Lane, London.
12. **FAULKNER, ROBERT, AND CO.:**
21, Baker Street Portman Square, London.
47. **FAYOLLE, GUSTAVE:**
47, Mark Lane, London.
27. **FEETHAM, MARK, AND CO.:**
9, Clifford Street, Bond Street, London.
75. **FERGUSON AND SON:**
116, Broad Street, Reading.
30. **FERGUSON BROTHERS:**
Holme Head Works, near Carlisle.
39. **FETHERSTON, JOHN J.:**
2, Coppinger's Row, Dublin.
38. **FIELD AND SONS:**
113-115, Fore Street, City, London.
66. **FINCH, JOHN:**
9, Buckingham Street, Strand, London.
12. **FISK, ALFRED S.:**
St. John Street, Woodbridge, Suffolk.
38. **FLATAU, A. AND W., AND CO.:**
Ropemaker Street, Finsbury, London.
10. **FLEMING, A. B., AND CO.:**
Caroline Park, Edinburgh.
10. **FLETCHER, R., AND SON:**
Kersley Paper Works, Stoneclough, near Manchester.
49. **FLITCH, J. J., AND SON:**
Springwell Leather Works, Buslingthorpe, Leeds.
18. **FOLEY, ARTHUR:**
Fisherton Cabinet Works, Salisbury.
85. **FOLLOWS AND BATE :**
Dutton Street Works, Manchester.
74. **FONDCLAIR BROTHERS :**
Putney Hills, Madras, Madras.
47. **FORSTER AND GREGORY:**
Lonesome Chemical Works, Streatham Common, near London.
32. **FOSTER, JOHN, AND SON:**
Black Dike Mills, Queensbury, near Bradford.
32. **FOSTER, WILLIAM AND HENRY:**
Denholme Mills, near Bingley, Yorkshire.

Class.

19. FOURACRE (J. T.), AND WATSON:
Stonehouse, Plymouth, Devon.
- 50, 51. FOWLER, JOHN, AND CO.:
71, Cornhill, London.
43. FOX, CHARLES, AND SON:
15, Old Change, Cannon Street, London.
85. FOX, J. CAVEN:
Royal Horticultural Gardens, South Kensington, London.
64. FOX, WALKER, AND CO.:
Atlas Engine Works, Bristol.
- 39, 45. FRANCATI AND SANTAMARIA:
65, Hatton Garden, London.
66. FRANCIS AND CO.:
Bridge Foot, Vauxhall, London.
48. FRANCIS, THOMAS, AND CO.:
Lion Nail Works, Sparkbrook, Birmingham.
33. FRASER AND SMITH:
Church Street, Inverness.
26. FRODSHAM, G. E.:
31, Gracechurch Street, London.
49. FROST, EDWIN:
197, Upper Thames Street, London.
74. FRY, J. S., AND SONS:
12, Union Street, Bristol.
12. FRY, SAMUEL:
9, Surbiton Park Terrace, Kingston-on-Thames.
50. FUSSELL, JAMES, SONS, AND CO.:
Mells Ironworks, near Frome, Somerset.
38. FYFE AND ROBINSON:
9 and 10, Maidenhead Court, Aldersgate Street, London.

G.

14. GABRIEL, MESSRS.:
72, Ludgate Hill, London.
64. GAGE, THOMAS:
53, Tindal Street, Bishop's Road, North Brixton, London.
54. GALLOWAY, W. AND J., AND SONS:
Knott Mill Iron Works, Manchester.
- 59, 66. GARDNER, A., AND SON:
36, Jamaica Street, Glasgow.
- 20, 27, 36. GARDNER, JOHN, AND SONS:
453 and 454, Strand, London.
- 51, 54. GARRETT, RICHARD, AND SONS:
Leiston Works, Saxmundham, Suffolk.
17. GARRETT, RHODA AND AGNES:
2, Gower Street, London.
52. GERAUT, E., AND CO.:
1 and 2, Corporation Buildings, Farringdon Road, London.
47. GERRARD, A. W.:
153, Liverpool Road, London.
71. GEYELIN AND CO.:
Belgrave House, Argyle Square, London.

Class.

58. GIBBONS, B., JUN.:
Lower Gornal, near Stourbridge.
40. GIBBS, G.:
29, Corn Street, Bristol.
51. GIBBS, JAMES, AND CO.:
16, Mark Lane, London.
34. GIBSON, S., JUN.:
Wellington Mill, Leek, Staffordshire.
39. GIBSON, WILLIAM:
Donegall Place, Belfast.
47. GIDNEY, CLARK, AND CO.:
West Ham Abbey, Stratford, near London.
51. GILBERT, WILLIAM:
Shippon, Abingdon, Berkshire.
10. GILLOTT, JOSEPH, AND SONS:
Victoria Works, Graham Street, Birmingham.
17. GILLOW AND CO.:
176, Oxford Street, London.
33. GLEDHILL, THOMAS:
Golcar, near Huddersfield.
66. GLENBOIG FIRE CLAY CO.:
68, Bath Street, Glasgow.
47. GLOVER, HENRY, SON, AND CO., LIMITED:
Hammerton Street Works, Leeds Road, Bradford.
43. GLOVER, WILLIAM, JAMES, AND CO.:
St. Helen's Lancashire.
12. GODBOLD AND BASEBE:
8, Grand Parade, St. Leonards-on-Sea.
39. GOGGIN, JEREMIAH:
74, Grafton Street, Dublin.
62. GOLD, HENRY:
Castle Carriage Works, Francis Road, Windsor.
47. GOLDING, DAVIS, AND CO., LIMITED:
Marsh Alkali Works, Widnes, Lancashire.
66. GOLDSWORTHY, T., AND SONS:
Hulme, Manchester.
56. GOODALL, A., AND SONS:
Clifton Bridge Mills, Brighouse, Yorkshire.
- 10, 61. GOODALL, CHARLES, AND SON:
24, Great College Street, Camden Town, London.
20. GOODE, THOMAS, AND CO.:
19, South Audley Street, London.
43. GORDON, A. M'C., AND CO.:
59 to 61, Bridgewater Street, Liverpool.
51. GOULDING, W. AND H. M., LIMITED:
Dublin.
66. GRAHAM, S. J. CROOK, AND CO. (Executors of the late):
Premier Street, Boothtown, Halifax.
69. GRANT, JOHN:
Craig Mills, Strathmartine, by Dundee.
66. GRANT, ROBERT:
9, Tolbooth Wynd, Peterhead, Scotland.
40. GRANT, STEPHEN:
67A, St. James's Street, London.

Class.

43. GRANVILLE, THE EARL:
Shelton Colliery and Iron Works, Stoke-upon-Trent.
9. GRAPHIC, PROPRIETORS OF THE:
190, Strand, London.
14. GRAY, JOSEPH, AND CO.:
Truss Works, New George Street, Moor, Sheffield.
43. GREAT WESTERN COLLIERY CO.:
35, West Bute Street, Cardiff.
60. GREAVES, WILLIAM:
Vincent Machine Works, Gelderd Road, Leeds.
74. GREEN AND STEMBRIDGE:
54 and 55, Cornwall Road, Lambeth, London.
54. GREEN, EDWARD, AND SON:
Economiser Works, Wakefield.
- 19, 20. GREEN, JAMES, AND NEPHEW:
107, Queen Victoria Street, London.
17. GREEN, CHARLES:
2, Bank Street, Sheffield.
11. GREEN, JAMES:
20, Moore Street, Chelsea, London.
74. GREEN, JOHN:
12, Graham Terrace, Ridley Road, Kingsland, London.
40. GREENER, W. W.:
St. Mary's Square, Birmingham.
30. GREENHALGH AND SONS:
Field Mill, Mansfield.
43. GREENING, N., AND SONS:
Warrington.
31. GREENMOUNT SPINNING CO.:
44, Upper Queen Street, Belfast.
14. GREENWAY, HENRY (Surgeon):
Ham Street, Plymouth.
58. GREENWOOD AND BATLEY:
Albion Works, Leeds.
18. GREGORY AND CO.:
212, Regent Street, London.
47. GRIFFITHS, FLETCHER, AND BERDOE:
107, Cannon Street, London.
21. GRIMOND, I. AND A. D.:
Bow Bridge Works, Dundee.
46. GRIST BROTHERS:
Marshall's Buildings, Upperhead Row, Huddersfield.
10. GROSVENOR, CHATER, AND CO.:
68, Cannon Street, London.
34. GROUT AND CO.:
12, Foster Lane, London.
15. GRUBB, HOWARD:
Rathmines, Dublin.
46. GRUNEBaum, JOSEPH:
45, Old Bond Street, London.
54. GUY, HENRY A., AND CO.:
11, Cloak Lane, Cannon Street, London.
31. GUYNET, L. H., AND CO.:
10, Chichester Street, Belfast.

Class.

54. GWYNNE AND CO.:
Essex Street Works, Strand, London.
54. GWYNNE, JOHN AND HENRY:
89, Cannon Street, London.

H.

57. HACKING AND CO.:
Lord Street, Bury, Lancashire.
54. HADFIELD STEEL FOUNDRY CO.:
Attercliffe, Sheffield.
34. HADWEN, JNO., AND SONS:
Kebroyd Mills, near Halifax, Yorkshire.
33. HAIGH, GEORGE:
Brook Mills, Slaithwaite, near Huddersfield.
68. HALE-MACDONALD WAR ROCKET CO.:
4, Bridge Chambers, 171, Queen Victoria Street, London.
32. HALEY, ALFRED, AND CO.:
Bradford, Yorkshire.
72. HALFORD, JAMES V.:
12, Upper Saint Martin's Lane, London.
51. HALL, A. W., AND CO.:
Redbridge Chemical Works, 17, Above Bar, Southampton.
30. HALL, RALPH, AND CO.:
15, Chorlton Street, Portland Street, Manchester.
67. HALL, JULIUS:
90, Chancery Lane, London.
30. HALL, LAWRENCE:
53, Mosley Street, Manchester.
57. HALL, ROBERT:
Hope Foundry, Bury, Lancashire.
18. HALL, THOMAS:
8, George Street, Edinburgh.
46. HALL, THOMAS HENRY:
Bright Mill, Batley.
56. HALLAM BROTHERS:
Ecclesfield, near Sheffield.
66. HAMBLET, JOSEPH:
Piercy Brickworks, West Bromwich, Staffordshire.
66. HAMILTON, JAMES:
67, Yorkshire Street, Rochdale, Lancashire.
14. HAMILTON, WILLIAM:
45 and 46, Ship Street, Brighton, Sussex.
6. HAMMER, GEORGE M.:
370, Strand, London.
52. HANCOCK, F. AND C.:
Dudley, Worcestershire.
49. HANDFORD-GREATREX AND BROTHER:
Whittimere Street, Walsall.
50. HAND-POWER ROCK DRILL CO.:
63, Queen Victoria Street, London.
9. HANHART, M. AND N.:
83, Charlotte Street, Fitzroy Square, London.
42. HANKS, J., AND SON:
Chameleon Villas, Colchester Road, Walthamstow, Essex.

Class.

- 19, 25. **HARDMAN, JNO., AND CO.:**
Newhall Hill, Birmingham.
21. **HARE, JOHN, AND CO.:**
Temple Gate, Bristol.
12. **HARE, GEORGE:**
26, Calthorpe Street, London.
33. **HARGREAVE AND NUSSEYS:**
Boar Lane, Leeds.
53. **HARGREAVES AND ROBINSON:**
Victoria Road, Widnes, Lancashire.
38. **HARGROVES, R. A. AND J., AND CO.:**
41, Charterhouse Square, London.
43. **HARLAND, J. W.:**
49, Essex Street, Strand, London.
85. **HARLOW, BENJAMIN:**
Macclesfield, Cheshire.
- 43, 66. **HARPER AND MOORES:**
Stourbridge.
- 14, 27. **HARRIS, GEORGE HENRY:**
Bristol Street, Birmingham.
43. **HARRISON, AINSLIE, AND CO.:**
Newland Furnace, Ulverston, Lancashire.
51. **HARRISON, MCGREGOR, AND CO.:**
Albion Foundry, Leigh, Lancashire.
62. **HARRISON, R., AND SON:**
1, Stanhope Street, Euston Road, London.
66. **HARRISON, GEORGE KING:**
The Lye and Brettell Lane Works, Stourbridge.
24. **HART, SON, PEARD AND CO.:**
53, Wych Street, Strand, London.
85. **HARTLEY AND SUGDEN:**
Atlas and Premier Works, Halifax, Yorkshire.
50. **HATHORN AND CO.:**
30, Charing Cross, London.
54. **HATHORN, DAVIS, AND DAVEY:**
Sun Foundry, Leeds.
43. **HATTERSLEY, E. J., AND CO., LIMITED:**
Peacraft, Sheffield.
57. **HATTERSLEY, GEORGE, AND SONS:**
North Brook Works, Keighley, Yorkshire.
43. **HATTON, SONS, AND CO.:**
Broadwaters Iron and Tin Plate Works, Kidderminster.
6. **HAWES, GEORGE E.:**
Chapel Field, Norwich.
63. **HAWKINS, JOHN, AND CO.:**
Station Street, Walsall.
30. **HAWKINS, JOHN, AND SONS:**
8, Faulkner Street, Manchester.
43. **HAYES, CROSSLEY, AND CO.:**
153, Cheapside, London.
62. **HAYES, HENRY, AND SON:**
Stamford and Peterborough.
62. **HAYNES AND JEFFERIS:**
Ariel Works, Spon Street, Coventry.

Class.

54. HAYNES, THOMAS, AND SONS:
227, 229, 231, Edgware Road, London.
67. HEAD, WRIGHTSON, AND CO.:
Teesdale Iron Works, Stockton-on-Tees.
12. HEATH, VERNON:
43, Piccadilly, London.
- 18, 86. HEATON, JOHN ALDAM:
29, Bloomsbury Square, London.
12. HEDGES, DAVID:
7, Queen Street, Lytham.
15. HEDLEY, F. H.:
Marrianen-Gasse, 32, Vienna.
42. HELY, ALFRED A.:
194, South Lambeth Road, London.
47. HEMINGWAY, S., AND CO.:
Trafalgar Street, Bradford, Yorkshire.
18. HEMINGWAY AND THOMAS:
Victoria Road, Kentish Town, London.
17. HEMS, HARRY:
83, Paris Street, Exeter.
21. HENDERSON AND CO.:
Durham.
62. HENDERSON, JAMES, AND CO.:
60, 62, 64, North Street, Glasgow.
12. HENDERSON, ALEXANDER L.:
49, King William Street, City, London.
75. HENLEY AND SON:
Joiner Street, Tooley Street, Southwark, London.
40. HENRY, ALEXANDER:
12, South Saint Andrew Street, Edinburgh.
33. HEPWORTH, B., AND SONS:
New Wakefield Mills, Dewsbury.
33. HEWITT AND KEMP:
Innox Mill, Trowbridge, Wiltshire.
61. HEWITT, JOHN, AND CO.:
Cambridge Street Works, Sheffield.
37. HICK, WILLIAM:
37, Kirkgate, Huddersfield, Yorkshire.
10. HICKISSON, Mrs. M. A. (late BOND):
75, Southgate Road, London.
43. HIGGIN, THOMAS:
33, Tower Buildings, Liverpool.
34. HILDITCH, G. and J. B.:
11, Cheapside, London.
51. HILL AND SMITH:
Brierley Hill, near Dudley.
55. HILL, CHARLES E., AND CO.:
119, St. Vincent Street, Glasgow.
18. HILLIER, JAMES:
12, King's Road, Camden Town, London.
- 51, 54. HINDLEY, EDMUND SAMUEL:
Bourton, Dorset.
10. HINKS, WELLS, AND CO.:
Buckingham Street, Birmingham.

- Class.**
66. **HITCHINS, RICHARD WILLIAM:**
9, Devonshire Place, Stoke Newington Green, London.
66. **HOBBS, HART, AND CO.:**
76, Cheapside, London.
24. **HODD, R., AND SON:**
80, Hatton Garden, London.
19. **HODGETTS, RICHARDSON, AND SON:**
Wordsley Glass Works, Stourbridge.
47. **HODGSON AND SIMPSON:**
Calder Soap Works, Wakefield.
57. **HODGSON, GEORGE:**
Thornton Road, Bradford.
49. **HOLDEN, EDWARD THOMAS:**
Walsall.
62. **HOLLAND AND HOLLAND:**
254, Oxford Street, London.
18. **HOLLAND AND SONS:**
28, Mount Street, Grosvenor Square, London.
30. **HOLLAND, WM., AND SONS:**
Victoria Mills, Miles Platting, Manchester.
66. **HOLLICK AND CO.:**
Portland Cement Works, Greenwich, London.
69. **HOLLINGTON, JOSEPH:**
Spice Mills, Wolverley, Kidderminster.
21, 34. **HOLME, GEORGE:**
87, Booth Street, Bradford.
51. **HOLMES AND SONS:**
Prospect Place Works, Norwich.
62. **HOLMES, H. AND A.:**
38, Margaret Street, Cavendish Square, London.
17. **HOLMES, W. M.:**
101, Dean Street, Soho, London.
63. **HOLMES, CHARLES:**
London Road, Derby.
63. **HOLMES, GEORGE EDWARD:**
London Road, Derby.
68. **HOLMES, HERBERT M., JUN.:**
London Road, Derby.
75. **HOLMES, JOSEPH:**
Crown Chemical Works, Crown Street, Leeds.
11, 19. **HOLT, FRANK:**
St. John's, Warwick.
65, 67. **HOMFRAY AND CO.:**
7, Great Winchester Street Buildings, City, London.
71. **HOOKE'S CREAM MILK CO., LIMITED:**
Shardlow, Derbyshire.
71. **HOOKE, J.:**
104, Upper Thames Street, London.
33. **HOOPER, CHAS., AND CO.:**
Eastington Mills, Stonehouse, Gloucestershire.
20. **HOPE AND CARTER:**
Fountain Place, Burslem, Staffordshire.
54. **HOPKINSON, J., AND CO.:**
Britannia Works, Huddersfield.

Class.

13. HOPKINSON, J. AND J.:
235, Regent Street, London.
62. HOPTON AND SONS:
67, George Street, Euston Square, London.
63. HOPTON, THOMAS W. :
Collingwood Works, Broadwall, London.
15. HORNE AND THORNTONHWAITE :
416, Strand, London.
51. HORNSBY, RICHARD, AND SONS:
Spittlegate Iron Works, Grantham, Lincolnshire.
30. HORROCKSES, MILLER, AND CO.:
9, Bread Street, London.
29. HORSEY, J. G., AND CO. :
Copperfield Row, Bow, London.
43. HOUGHTON, JAMES, AND SON:
Townsend Wire Mills, Turner Street, Warrington, Lancashire.
43. HOUGHTON, W. D. :
Sankey Wire Mills, Warrington.
- 54, 61. HOUSE, HENRY, AND CO.:
31, Ludgate Hill, London.
56. HOWARD AND BULLOUGH:
Globe Works, Accrington, Lancashire.
17. HOWARD AND SONS:
25, 26, 27, Berners Street, Oxford Street, London.
51. HOWARD, JAMES AND FREDERICK:
Britannia Ironworks, Bedford.
64. HOWARTH, RICHARD:
26, Virginia Street, Southport.
58. HOWE MACHINE CO., LIMITED:
46 and 48, Queen Victoria Street, London.
- 20, 36. HOWELL, JAMES, AND CO.:
5, 7, and 9, Regent Street, London.
62. HOWES AND SONS:
City Steam Carriage Works, Chapel Field, Norwich.
63. HOWES, HENRY WILLIAM:
Prince of Wales Road, Norwich.
66. HOWORTH, JAMES:
Victoria Works, Farnworth, near Manchester.
33. HUDSON, SYKES, AND BOUSFIELD:
Springfield Mills, Morley, Leeds.
47. HUDSON, ROBERT S.:
Royal Chemical Works, West Bromwich.
64. HUGHES' LOCOMOTIVE AND TRAMWAY ENGINE CO.,
LIMITED:
Falcon Works, Loughborough.
50. HUMBLE, STEPHEN:
61, Uttoxeter New Road, Derby.
51. HUMPHRIES, EDWARD:
Atlas Iron Works, Pershore, Worcestershire.
51. HUNT AND TAWELL:
Atlas Works, Earls Colne, near Halstead, Essex.
67. HUNTER AND ENGLISH :
Bow Road, London.
66. HUNTER, JAMES:
209, King Street, Aberdeen.

Class.

70. HUNTLEY AND PALMERS:
Reading.
47. HURLET AND CAMPSIE ALUM CO. :
115, Wellington Street, Glasgow.
47. HUTCHISON, ROBERT :
Springvale Oil Mills, Cowlaire, Glasgow.
10. HYDE AND CO.:
25, St. Bride Street, Ludgate Circus, London.
49. HYDE, ARCHER, AND CO.:
9, Paternoster Buildings, Newgate Street, London.
54. HYDRAULIC ENGINEERING CO., LIMITED:
Chester.

I.

60. ILLUSTRATED LONDON NEWS:
198, Strand, London.
43. IMPERIAL WIRE CO. (*See* NETTLEFOLDS):
16, Broad Street, Birmingham.
33. INCORPORATED CHAMBER OF COMMERCE WOOLLEN
MANUFACTURERS' ASSOCIATION:
Huddersfield.
75. IND, COOPE, AND CO.:
Burton-on-Trent.
56. INGHAM, JOHN, AND SONS:
Thornton, near Bradford.
47. INMAN BROTHERS:
Aspley Place, Huddersfield.
67. INMAN STEAMSHIP CO., LIMITED:
22, Water Street, Liverpool.
56. IRVIN AND SELLERS:
Preston, Lancashire.
13. IVORY, H. A., AND CO.:
Wood Green, London.

J.

55. JACKSON AND BROTHER:
Wharf Foundry, Bolton.
17. JACKSON AND GRAHAM:
30 to 38, Oxford Street, London.
18. JACKSON, GEORGE, AND SONS:
49, Rathbone Place, London.
34. JACKSON, J., AND F.:
Sutton Mills, Macclesfield.
45. JACOB, B.:
21, Houndsditch, London.
17. JACOBY, JULIUS:
52, Regent Street, London.
29. JACQUES, ZACHRIA:
6, Upper Abbey Street, Dublin.
31. JAFFE BROTHERS:
Belfast.

Class.

- 47, 69. JAMES, EDWARD, AND SONS:
Sutton Road, Plymouth.
14. JAMIESON, W. AND J.:
10, Broad Street, Golden Square, London.
65. JAMIESON, ANDREW:
Eastern Telegraph Co., 66, Old Broad Street, London.
47. JARRATT BROTHERS:
Jesse Street, Manchester Road, Bradford.
51. JEFFERY AND BLACKSTONE:
Stamford, Lincolnshire.
- 18, 22. JEFFREY AND CO.:
64, Essex Road, Islington, London.
18. JEFFREYS, CHARLES:
103, Hatton Garden, London.
19. JENKINSON, ALEXANDER:
10, Princes Street, Edinburgh.
- 11, 29. JENNER AND KNEWSTUB:
38, St. James's Street, London.
66. JENNINGS, GEORGE:
Palace Wharf, Stangate, London.
12. JENNINGS, PAYNE:
Elm Grove, Rosendale Villas, West Dulwich, London.
47. JENNINGS, THOMAS:
Chemical Works, Cork, Ireland.
47. JENSON AND NICHOLSON:
65, Goswell Road, London.
43. JESSOP, W., AND SONS, LIMITED:
Brightside Works, Sheffield.
48. JOHNSON, CLAPHAM, AND MORRIS:
24 and 26, Lever Street, Manchester.
30. JOHNSON (JABEZ) AND FILDES:
44, Spring Gardens, Manchester.
66. JOHNSON, J. C., AND Co:
25, Great Tower Street, London.
53. JOHNSON, MATTHEY, AND CO.:
Hatton Garden, London.
33. JOHNSTON, JAMES, AND CO.:
New Mill, Elgin, Scotland.
16. JOHNSTON, W., AND A. K.:
4, St. Andrew Square, Edinburgh.
17. JOHNSTONE, JEANES, AND CO.:
67, New Bond Street, London.
43. JONAS, MEYER, AND COLVER:
Continental Steel Works, Sheffield.
24. JONES AND WILLIS:
Temple Row, Birmingham.
17. JONES, H. BENCE:
9, New Burlington Street, London.
69. JONES, ORLANDO, AND CO.:
York Road, Battersea, London.
33. JONES, PRYCE:
Newtown, North Wales.
29. JONES, THOMAS:
41, St. James's Street, London.

Class.

43. JOWITT, THOMAS, AND SONS :
Scotia Steel Works, Sheffield.
60. JUDD AND CO.:
St. Andrew's Hill, City, London.
62. JULIAN, HENRY:
Bow Street, Bolton.

K.

35. KASHMIR, HIS HIGHNESS THE MAHARAJAH OF:
Srinagar, Kashmir, India.
34. KAY AND RICHARDSON:
39, Gutter Lane, London.
51. KEARSLEY, GEORGE :
British Iron and Implement Works, North Street, Ripon.
- 69, 74. KEEN, ROBINSON, BELLVILLE, AND CO.:
6, Garlick Hill, London.
51. KELL, MEATS, AND CO. :
Barton Foundry, Gloucester.
49. KELLY AND DUNN:
51-54, Watling Street, Dublin.
61. KENNEDY'S PATENT WATER METER CO., LIMITED:
Kilmarnock, Scotland.
48. KENRICK, ARCHIBALD, AND SONS :
West Bromwich.
29. KENT, G. B., AND CO.:
11, Great Marlborough Street, London.
27. KERR, EDWARD, JUN.:
66, Manor Street, Dublin.
8. KESSELMAYER, CHARLES A.:
1, Peter Street, Manchester.
19. KILNER BROTHERS:
Great Northern Goods Station, King's Cross, London.
75. KINAHAN AND CO.:
20, Great Titchfield Street, Oxford Street, London.
66. KINCAID, JOSEPH, C.E.:
11, Great George Street, Westminster, London.
66. KING BROTHERS :
Fire-clay and Brick Works, Stourbridge.
10. KING, SON, AND WHITAKER :
4 and 5, Old Bailey, London.
62. KING, WILLIAM:
Battlesden Steam Carriage Works, Leighton Buzzard.
66. KINSMAN, REV. PREBENDARY:
Tintagel, near Camelford, Cornwall.
16. KIPS, JOHN JOSEPH:
14, Moore Street, Brompton, London.
43. KIRBY, BEARD, AND CO.:
18, Cannon Street, London.
47. KIRBY, H. AND T., AND CO.:
14, Newman Street, London.
75. KITCHIN, JOSEPH:
Dunsdale Farm, Westerham, Kent.

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- 67. KNIGHT, S.:
4, Ordnance Row, Portsmouth.
- 72. KNOWLES, J. AND G.:
Stonehaven.
- 26. KULLBERG, VICTOR :
105, Liverpool Road, London.
- 36. KULP, H. N., AND SON:
Nottingham.
- 40. KYNOCH AND CO.:
Witton, near Birmingham.

L.

- 33. LABRON, J.:
46, Park Square, Leeds.
- 13. LACHENAL AND CO.:
4, Little James Street, Gray's Inn Road, London.
- 52, 61. LADD, J. H., AND CO.:
116, Queen Victoria Street, London.
- 36. LADIES' WORK SOCIETY:
31, Sloane Street, London.
- 67. LAFARGUE, A. :
141, Avenue Malakoff, Paris.
- 67. LAIRD BROTHERS :
Birkenhead.
- 17. LAMB, JAMES:
16, John Dalton Street, Manchester.
- 66. LAMPREY, J. H. :
St. Ann's Park, Wandsworth, London.
- 40. LANCASTER, ALFRED:
27, South Audley Street, London.
- 64. LANDORE-SIEMENS STEEL CO., LIMITED:
3, Westminster Chambers, Victoria Street, London.
- 40. LANG, J., AND SONS:
22, Cockspur Street, London.
- 47. LANGTHORNE CHEMICAL WORKS:
Stratford, near London.
- 21. LAPWORTH BROTHERS:
22, Old Bond Street, London.
- 66, 85, 17. LASCELLES, WM. HENRY:
121, Bunhill Row, London.
- 63. LATCHFORD AND WILLSON:
11, Upper St. Martin's Lane, London.
- 28. LAURENDEAU, P. :
29, Queen Street, St. Helier's, Jersey.
- 62. LAURIE AND MARNER, LIMITED:
313, Oxford Street, London.
- 66. LAVERS, ALFRED H.:
Wharf, Nine Elms, London.
- 19. LAVERS, BARRAUD, AND WESTLAKE:
Endell Street, Bloomsbury, London.
- 52. LAWRENCE AND CO.:
22, St. Mary Axe, City, London.

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54. LAWRENCE AND PORTER:
36, Parliament Street, London.
10. LAWRENCE, T. J.:
12, Wine Office Court, Fleet Street, London.
56. LAWSON, S., AND SONS:
Hope Foundry, Leeds.
51. LE BUTT, JOSIAH:
Bury St. Edmunds.
10. LECHERTIER, BARBE, AND CO.:
60, Regent Street, London.
38. LEE BROTHERS:
27, Watling Street, London.
47. LEECH AND NEAL:
City Road, Derby.
43. LEEDS FORGE CO., LIMITED:
Armley Road, Leeds.
15. LÉGE, A., AND CO.:
20, Cross Street, Hatton Garden, London.
54. LE GRAND AND SUTCLIFF:
100, Bunhill Row, London.
50. LE GROS, MAYNE, LEAVER, AND CO.:
60, Queen Victoria Street, London.
16. LEIGHTON, JOHN:
12, Ormonde Terrace, Regent's Park, London.
14. LEMALE, T., AND CO.:
58, Haymarket, London.
12. LEMERE, BEDFORD, AND CO.:
147, Strand, London.
63. LENNAN AND SON:
29 and 30, Dawson Street, Dublin.
10. LEONARDT, D., AND CO.:
Universal Pen Works, Birmingham.
27. LEONI, S., AND CO.:
74, Strand, London.
30. LEPRINCE, L. A. A.:
33, Park Square, Leeds.
14. LESLIE AND CO., LIMITED:
Bond Court House, Walbrook, London.
29. LEUCHARS AND SON:
38 and 39, Piccadilly, London.
47. LEVINSTEIN, L. J., AND SONS:
Blackley, near Manchester.
39. LEVETUS BROTHERS:
56, Vittoria Street, Birmingham.
67. LEWIN, DAVID JAMES:
110, Cannon Street, London.
37. LEWIS, G., AND E. S.:
12, Warwick Square, City, London.
40. LEWIS, GEORGE EDWARD:
32 and 33, Lower Loveday Street, Birmingham.
28. LEWIS, JAMES:
6, Bartlett's Buildings, Holborn, London.
43. LILLESALL CO.:
Priors Lee Hall, near Shifnal, Shropshire.

Class.

38. LINCOLN, BENNETT, AND CO.:
40, Piccadilly, London.
72. LINDEMANN, A. C., M.D.:
10, Wasnidge Street, Hulme, Manchester.
21. LINOLEUM MANUFACTURING CO., LIMITED:
144, Queen Victoria Street, London.
67. LIPMAN AND CO.:
Glasgow.
12. LIVERPOOL DRY PLATE AND PHOTOGRAPHIC PRINTING
CO.:
1b, St. John's Hill, Wandsworth, London.
47. LIVER ALKALI WORKS CO., LIMITED :
Lightbody Street, Liverpool.
31. LIVERPOOL SPUN OAKUM CO.:
9, North John Street, Liverpool.
57. LIVESEY, HENRY, LIMITED:
Blackburn.
67. LIVIE, DAVID:
Victoria Docks, Dundee.
34. LLOYD, ATTREE, AND SMITH:
32 and 33, Wood Street, London.
52. LLOYD, THOMAS AND SONS:
327, Old Street, Shoreditch, London.
50. LLOYD, FRANCIS HENRY:
Wood Green, Wednesbury, Staffordshire.
51. LOADER, CALEB:
East Pennard, Shepton Mallet.
38. LOBB, JOHN:
296, Regent Street, London.
12. LOMBARDI AND CO.:
Brighton.
67. LONDON AND GLASGOW ENGINEERING AND IRON SHIP-
BUILDING CO., LIMITED :
34, Gracechurch Street, London.
43. LONDON AND SOUTH WALES COAL COMPANY, LIMITED:
Cardiff.
64. LONDON, BRIGHTON, AND SOUTH COAST RAILWAY CO.:
Locomotive and Carriage Works, Brighton.
17. LONDON SOCIETY FOR PROMOTING CHRISTIANITY
AMONGST THE JEWS :
16, Lincoln's Inn Fields, London.
12. LONDON STEREOSCOPIC COMPANY, LIMITED:
110, Regent Street, London.
43. LONDONDERRY, MARQUIS OF :
Seaham, Durham.
27. LONGDEN AND CO.:
Phoenix Foundry, Sheffield.
14. LONGDON, F., AND CO.:
Agard Street, Derby.
33. LORD, E., AND CO.:
Rocks Mill, Small Bridge, Rochdale.
9. LOTH, JOHN T.:
18, Gilmore Place, Edinburgh.
52. LOWCOCK AND BARR:
Coleham Foundry, Shrewsbury.

Class.

47. LOWE, CHARLES, AND CO.:
Reddish, Stockport.
28. LUCE, GEORGE:
44, King Street, Jersey.
17. LUCRAFT, G. S., AND SON:
79, City Road, London.
85. LUMBY, EDWIN:
West Grove Works, Halifax.
67. LUMLEY, HENRY, AND RUSSELL, J. SCOTT:
31, St. James's Street, London.
38. LUPTON, WILLIAM, AND CO.:
Wellington Street, Leeds.
38. LYE, THOMAS:
Luton, Bedfordshire.
10. LYONS, WILLIAM:
19, Park Street, near Ducie Bridge, Manchester.

M.

72. M'CALL, JOHN, AND CO.:
137, Houndsditch, London.
39. M'CREERY, JAMES:
103, Thorndyke Street, Belfast.
66. MACDONALD (A.), FIELD, AND CO.:
Granite Works, Aberdeen.
47. MACFARLAN, J. F., AND CO.:
17, North Bridge, Edinburgh.
17. M'INTOSH, ALEXANDER H.:
Rose Street, Kirkcaldy.
38. MACINTOSH, CHARLES, AND CO.:
19, St. Bride's Street, Ludgate Circus, London.
24. MACKAY, CUNNINGHAM, AND CO.:
62, Princes Street, Edinburgh.
- 47, 78. MACKAY, JOHN, AND CO.:
Canning Street, Athole Crescent, Edinburgh.
- 67, 68. MACKIE, SAMUEL JOSEPH:
Cotton Powder Works, Faversham.
53. MACKRILL, EDWARD T., AND CO.:
Kingsbury, Aylesbury, Bucks.
54. McKENZIE, THOS., AND SONS, LIMITED:
16, Holborn Viaduct, London.
51. M'LAREN, JOHN AND HENRY:
Midland Engine Works, Jack Lane, Hunslet, Leeds.
33. M'LAURIN, PETER, SON, AND CO.:
Langholm, Dumfriesshire.
66. M'LEAN AND CO.:
St. Helen's Wharf, 25, Bankside, Southwark, London.
64. MACLELLAN, P. & W.:
Clutha Iron Works, Glasgow.
38. M'LINTOCK, JAMES, AND SONS:
Barnsley, Yorkshire.
50. MACNAB, JAMES:
17, Charles Street, Cavendish Square, London.
62. M'NAUGHT AND SMITH:
45, Park Lane, London.

Class.

56. McNAUGHT, JOHN AND WILLIAM:
St. George's Foundry, Rochdale.
38. MACQUEEN AND CO.:
8 and 9, Barbican, London.
- 53, 47. MACTEAR, JAMES, F.C.S.:
St. Rollox Chemical Works, Glasgow.
33. MAHONY, MARTIN, AND BROTHERS:
8, Camden Quay, Cork.
51. MALDON IRON WORKS CO., LIMITED:
Maldon, Essex.
36. MALLET, HENRY, AND SONS:
Mary Gate, Nottingham.
12. MALTBY, WILLIAM F.:
176, Upper Street, Islington, London.
38. MANBY, JOHN:
21, Rue Auber, Paris.
47. MANDER BROTHERS:
Wolverhampton.
46. MARCOVITCH AND CO.:
11, Air Street, Regent Street, London.
36. MARLBOROUGH, DUCHESS OF:
Viceregal Lodge, Dublin.
33. MARLING AND CO.:
Ebley and Stanley Mills, Stroud, Gloucestershire.
50. MARSDEN, H. R.:
Soho Foundry, Meadow Lane, Leeds.
17. MARSH, JONES, AND CRIBB:
Boar Lane, Leeds.
31. MARSHALL AND CO.:
Leeds and Shrewsbury.
75. MARSHALL AND HOLLAND:
1, Dod Street, Limehouse, London.
- 55, 66. MARSHALL, ALFRED, AND CO.:
Perseverance Iron Works, Heneage Street, Brick Lane, London.
43. MARSHALL, ROBERT:
178, St. Vincent Street, Glasgow.
51. MARSHALL, SONS, AND CO., LIMITED:
Britannia Iron Works, Gainsborough.
60. MARSHALL, T. J., AND CO.:
Campbell Works, Gillet Street, Kingsland, London.
39. MARSHALL, W., AND CO.:
24 and 25, Princes Street, Edinburgh.
43. MARSTON, JOHN:
Paul Street, Wolverhampton.
67. MARTIN, C., AND CO.:
72, Mark Lane, London.
63. MARTIN, ROBERT:
Old Charlton, Kent.
64. MARTIN, WILLIAM:
245, Oldham Road, Manchester.
54. MARTINEAU AND SMITH:
Holloway Head, Birmingham.
43. MASON AND CO.:
5, Arthur Street East, London.

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50. MASSEY, B. AND S.:
Canal Iron Works, Openshaw, Manchester.
- 54, 57. MATHER AND PLATT:
Salford Iron Works, Manchester.
14. MATHER, WILLIAM:
Farringdon Road, London.
38. MATTHEWS, J.:
16, Oakley Street, Waterloo Road, London.
54. MAUDSLAY, SONS, AND FIELD:
Westminster Bridge Road, London.
20. MAW AND CO.:
Benthal Works, Broseley, Shropshire.
74. MAW, THOMAS:
Jacob's Well, Camp Road, Leeds.
47. MAWSON AND SWAN:
Mosley Street, Newcastle-on-Tyne.
63. MAXWELL, HENRY, AND CO.:
161, Piccadilly, London.
54. MAY AND MOUNTAIN:
Suffolk Works, Berkeley Street, Broad Street, Birmingham.
27. MAY, G. H., AND CO.:
126 and 127, High Street, Cowes, Isle of Wight.
14. MAYER AND MELTZER:
71, Great Portland Street, London.
42. MEAD AND CO.:
73, Cheapside, London.
52. MEADOW FOUNDRY CO., LIMITED:
Mansfield, Nottinghamshire.
17. MELLIER, CHARLES, AND CO.:
48, 49, and 50, Margaret Street, Cavendish Square, London.
33. MELLOR, THOMAS, AND SON:
Thongs Bridge Mills, near Huddersfield.
74. MENIER, EMILE:
Southwark Street, Borough, London.
60. MENUET, EUGÈNE:
19, Tysoe Street, Clerkenwell, London.
54. MERRYWEATHER AND SONS:
63, Long Acre, London.
38. MEYER AND MORTIMER:
36, Conduit Street, London.
67. MEYER, FRANK JOHN:
B12, Exchange Buildings, Liverpool.
38. MIDDLEMASS, JAMES, AND CO.:
18, South Bridge, Edinburgh.
70. MIDDLEMASS, ROBERT:
77, Causewayside, Edinburgh.
8. MIDDLETON, THOMAS JOHN:
38, Little Queen Street, High Holborn, London.
19. MILLAR, JOHN, AND CO.:
2, South Saint Andrew Street, Edinburgh.
49. MILLER, J. AND J., AND CO.:
6, New Leather Market, London.
43. MILWARD, HENRY, AND SONS:
Washford Mills, Redditch.

Class.

75. MINCHEN BROTHERS :
Aska, Gamjam District, Madras.
9. MINOLA, NICOLA :
24, Charlotte Square, Edinburgh.
11. MINNS, JAMES :
Mariners Lane, Norwich.
20. MINTON, HOLLINS, AND CO. :
Stoke-upon-Trent.
20. MINTON'S :
Stoke-upon-Trent.
21. MITCHELL BROTHERS :
Albert Works, Waterfoot, near Manchester.
33. MITCHELL, COATS, AND CO. :
Tweed Place Mills, Galashiels.
30. MITCHELL AND WHYTLAW :
84, Ingram Street, Glasgow.
57. MITCHELL, WILLIAM :
Killinghall Mill, Ripley, Yorkshire.
- 54, 10. MONCRIEFF, JOHN :
North British Glass Works, Perth.
72. MOIR, JOHN, AND SON :
Glasshouse Fields, Brook Street, Ratcliffe, London.
18. MONINGTON AND WESTON :
9, Camden Street, London.
42. MONTANARI, RICHARD :
8, Bathbone Place, Oxford Street, London.
43. MONTGOMERIE, JOHN C. :
Stone Works, Dalmore, Stair, Ayrshire.
9. MOONEN, CHARLES :
1, Rue St. Eleuthère, Paris.
43. MOREWOOD, E., AND CO. :
Llanelly, South Wales.
37. MORLEY, J. AND R. :
18, Wood Street, Cheapside, London.
51. MORRIS AND GRIFFIN :
Ceres Works, Wolverhampton.
47. MORSON, THOMAS, AND SON :
31, 33, and 124, Southampton Row, London.
23. MORTON, JOSEPH :
343, Oxford Street, London.
54. MÜLLER, H. L. :
23, Mary Ann Street, Birmingham.
62. MULLINER, FRANCIS :
59, Great Charlotte Street, Liverpool.
62. MULLINER, HENRY :
Leamington.
69. MUMFORD, PETER, AND SON :
Farringdon Road, London.
69. MUMFORD, PETER, JUNIOR :
Royal Flour Mills, Victoria Embankment, Vauxhall, London.
31. MURPHY AND REYNOLDS :
Drumcairne Mills, Armagh, Ireland.
31. MURPHY, JOSEPH, AND SON :
Lurgan, Ireland.
- 27, 62. MUSGRAVE AND CO., LIMITED :
Cromac Foundry, Belfast.

Class.

38. MUTTON, THOMAS, AND CO.:
84, King's Road, Brighton.

N.

21. NAIRN, MICHAEL, AND CO.:
Kirkcaldy, Scotland.
54. NAPIER, D., AND SON:
Vine Street, York Road, Lambeth, London.
54. NATHAN, DAVID:
2, Queen Street Place, City, London.
23. NEAL, JOHN, AND CO.:
23, 24, and 25, Hampden Gurney Street, London.
- 23, 39. NEAL, JOHN:
44, 46, and 48, Edgware Road, London.
51. NEALE, MELVILLE T.:
Chandos Chambers, Buckingham Street, Adelphi, London.
33. NEAVE, S., AND SONS:
7, Peel Street, Manchester.
15. NEGRETTI AND ZAMBRA:
Holborn Viaduct, London.
83. NEIGHBOUR, GEORGE, AND SONS:
127, High Holborn, London.
43. NETTLEFOLDS:
16, Broad Street, Birmingham.
66. NEVILLE, JACKSON:
8, Walter Street, Fallowfield, Manchester.
43. NEWALL, R. S.:
Gateshead-on-Tyne.
54. NEWBOLD, EDWARD:
22, Low Pavement, Nottingham.
18. NEWMAN, MRS. CHARLOTTE:
329, Euston Road, London.
43. THE NEWPORT-ABERCARN BLACK VEIN STEAM COAL
CO., LIMITED (T. BEYNON AND CO.):
115, Leadenhall Street, London.
9. NEWSPAPER PUBLISHING CO.:
63, Fleet Street, London.
60. NEWSUM, WOOD, AND DYSON:
Meadow Road, Leeds.
6. NEWTON AND CO.:
3, Fleet Street, London.
75. NEW WESTMINSTER BREWERY CO., LIMITED:
Earl Street, Horseferry Road, Westminster, London.
42. NICHOLSON, HAMLET:
Kilner Deyne Terrace, The Park, Rochdale.
34. NICHOLSON, J. O.:
Hope Mills, The Dams, Macclesfield.
- 51, 54. NICHOLSON, W. N., AND SON:
Trent Iron Works, Newark-on-Trent.
38. NICOLL, HENRY JOHN:
114-120, Regent Street, London.
51. NITRO-PHOSPHATE AND ODAMS' CHEMICAL MANURE
CO., LIMITED:
109, Fenchurch Street, London.

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- 12. NORMAN, CARL, AND CO.:
Graphic Villa, Tunbridge Wells.
- 54. NORRIS, S. E., AND CO.:
St. Paul's Works, Shadwell, London.
- 47. NORTH BRITISH CHEMICAL CO., LIMITED:
149, Hope Street, Glasgow.
- 43. NORTH OF ENGLAND IRON MANUFACTURERS' ASSOCIATION, AND CLEVELAND IRONMASTERS' ASSOCIATION:
Royal Exchange, Middlesbrough.
- 34. NORWICH CRAPE CO., LIMITED:
St. Augustine's, Norwich.
- 51. NOTTINGHAM MALLEABLE IRON CO., LIMITED:
Kirke White Street, Nottingham.
- 37. NOTTINGHAM MANUFACTURING CO., LIMITED:
Station Street, Nottingham.

O.

- 54. OAKEY, JOHN, AND SONS:
Wellington Mills, Westminster Bridge Road, London.
- 47. OAKBANK OIL CO., LIMITED:
128, Ingram Street, Glasgow.
- 62. OFFORD, JOSEPH:
79, Wells Street, Oxford Street, London.
- 18. OGDEN, HENRY, AND SON:
126, Deansgate, Manchester.
- 51. OHLENDORFF AND CO.:
15, Leadenhall Street, London.
- 18. OPPENHEIM, WILLIAM:
75, Newman Street, Oxford Street, London.
- 11. ORTNER AND HOULE:
3, St. James's Street, London.
- 28. OSBORNE, BAUER, AND CHEESEMAN:
19, Golden Square, London.
- 19. OSLER, F. AND C.:
45, Oxford Street, London.
- 35, 39. OULMAN (LES FILS) AND CO.:
2, Rue Drouot, Paris.

P.

- 51. PACKARD, EDWARD, AND CO.:
6, Princes Street, Ipswich, Suffolk.
- 48. PALMER AND STORY:
Holme Works, Carlisle.
- 43, 54. PALMER, MORGAN, AND CO.:
Cardiff.
- 8. PALMER, SAMUEL:
75a, Strand, London.
- 67. PALMER'S SHIPBUILDING AND IRON CO., LIMITED:
Jarrow, Newcastle-on-Tyne.
- 27, 27. PARIS, JAMES:
Margery Park Road, Stratford, near London.

Class.

70. PARKINSON BROTHERS:
43, Hammerton Street, Burnley.
85. PARKINSON, WILLIAM:
Market Place, Ripon.
67. PARRATT, GEORGE FREDERICK:
Windham Club, St. James's Square, London.
69. PARSONS, FLETCHER, AND CO.:
Dyer's Buildings, Gravel Lane, Southwark, London.
48. PARSONS, P. M.:
Lombard Street, Southwark, London.
74. PATCHITT, E. CHESHIRE:
Ilkeston Road, Nottingham.
9. PATENT LITHOTYPE CO., LIMITED:
23, St. John's Square, Clerkenwell, London.
54. PATENT NUT AND BOLT CO.:
London Works, near Birmingham.
50. PATENT PLUMBAGO CRUCIBLE CO.:
Battersea Works, London.
9. PATENT PRINTING SURFACE CO.:
281, Strand, London.
66. PATENT SELENITIC CEMENT CO., LIMITED:
1, Great College Street, Westminster, London.
18. PATENT SHOW TABLET CO.:
Charlotte Street, Shoreditch, London.
- 10, 41. PATENT WATERPROOF PAPER AND CANVAS CO.:
Canal Works, Willesden Junction, near London.
30. PATENT VELVET CO.:
1, Peter Street, Manchester.
33. PATON, J. AND D., AND CO.:
Tilliecultry, Scotland.
40. PATSTONE, JOHN:
25, High Street, Southampton.
34. PATTERSON, W., AND SONS:
Nottingham.
49. PAUL, WILLIAM:
Oak Tannery, Kirkstall Road, Leeds.
28. PEARS, A. AND F.:
91, Great Russell Street, London.
70. PEEK, FREAN, AND CO.:
Drummond Road, London.
11. PEEL, JOSEPH:
Roker Lane, Pudsey, near Leeds.
63. PEIRCE, W. ADAMS:
6, Bridge Road, Woolstone, Southampton.
54. PENN, JOHN, AND SONS:
Greenwich.
52. PENNEY AND CO., LIMITED:
Lincoln.
66. PEN YB ORSEDD SLATE QUARRY CO.:
Carnarvon.
17. PEREIRA, JOHN, AND SON:
16, Wellington Road, Barnsbury, London.
27. PERRY, ALEX., AND CO:
7, Little Tower Street, London.

Class.

10. PERRY AND CO., LIMITED:
86, Lancaster Street, Birmingham.
72. PERRY, W. T. L.:
Mount's Bay Steam Works, Penzance.
66. PETERHEAD GRANITE POLISHING CO.:
Peterhead, Aberdeenshire.
34. PETERS AND CO.:
City Road Mills, Derby.
62. PETERS, THOS., AND SONS:
Park Street, Grosvenor Square, London.
18. PEYTON AND PEYTON:
Bordesley Works, Birmingham.
16. PHILIP, GEORGE, AND SON:
82, Fleet Street, London.
17. PHILLIPS, ALBERT:
Excelsior Works Rea, Street South, Birmingham.
43. PHOSPHOR BRONZE CO., LIMITED:
139, Cannon Street, London.
54. PICKERING, JONATHAN:
Globe Works, Stockton-on-Tees.
51. PICKSLEY, SIMS, AND CO., LIMITED:
Bedford Foundry, Leigh, Lancashire.
66. PICTOR AND SONS:
Box, near Chippenham, Wilts.
28. PIESE AND LUBIN:
2, New Bond Street, London.
40. PIGOU, WILKS, AND LAURENCE, LIMITED:
11, Queen Victoria Street, London.
43. PIKE, W. I.:
Wareham.
- 15, 27. PILLISCHER, MORITZ:
88, New Bond Street, London.
34. PIM BROTHERS AND CO.:
22, William Street, Dublin.
20. PINDER, BOURNE, AND CO.:
Nile Street Works, Burslem.
10. PIRIE, ALEXANDER, AND SONS:
Stoneywood Works, near Aberdeen.
- 18, 19. PITMAN AND CUTHBERTSON:
30 and 31, Newgate Street, London.
54. PLAMBECK AND CO.:
171, Queen Victoria Street, London.
56. PLATT BROTHERS AND CO., LIMITED:
Hartford Iron Works, Oldham.
62. FLOWRIGHT, J.:
96, High Street, King's Lynn.
66. PLYMOUTH FIRE CLAY CO.:
53, Gracechurch Street, London.
63. POLLOCK, SYDNEY:
11, Cambridge Terrace, St. Stephen's Road, Shepherd's Bush,
London.
11. POOLE, EDWARD:
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U.

9. UHLRICH, H. S.:
Brynterion, Chislefield, Chislehurst, Kent.
31. ULLATHORNE AND CO.:
9, Gate Street, Lincoln's Inn, London.
41. UNITE, JOHN:
291 and 293, Edgware Road, London.
9. UNWIN BROTHERS:
Oxford Court, 109a, Cannon Street, City, London.

V.

36. VALLANCE, Miss FANNY:
43, Porchester Terrace, Hyde Park, London.
34. VANNER, J., AND SONS:
Coleman Street, City, London.
12. VAN DER WEYDE, HENRY:
182, Regent Street, London.
66. VAN PRAAG, A., AND CO.:
9, Crown Street, Soho, London.
67. VANSITTART, Mrs. HENRIETTA:
Bell House, Montpelier Row, Twickenham.
38. VAN VOLEN, G.:
50 to 52, Waterloo Road, London.
65. VARLEY, S. ALFRED:
Hatfield, Herts.
75. VAUGHAN-JONES, EDWARD:
17, Water Lane, Great Tower Street, London.
66. VERITY BROTHERS:
127, Regent Street, London.
30. VERNON AND FREEMANTLE:
Piccadilly Mills, Manchester.
75. VICKERS, JOS. AND JOHN, AND CO.:
Victoria Street Distillery, Westminster, London.
34. VIRGOE, MIDDLETON, AND CO.:
34, Wood Street, City, London.
9. VIRTUE AND CO., LIMITED:
294, City Road, London.
43. VIVIAN, H. H., AND CO.:
46, George Street, St. Paul's, Birmingham.

Class.

38. VYSE, SONS, AND CO.:
76, Wood Street, City, London.

W.

62. WADSWORTH, ROBERT:
29, Westgate, Halifax.
43. WALKER, JAMES:
10, Elmwood Place, Leeds.
70. WALKER, JOHN:
Cleveland Street, Glasgow.
17. WALKER, W., AND SONS:
119, Bunhill Row, London.
18. WALLIS, JOSEPH:
133 and 135, Euston Road, London.
21. WALTON, FREDERICK:
Heatham House, Twickenham.
52. WALWORTH, JAMES, AND CO.:
Albert Works, Bradford, Yorkshire.
19. WARD AND HUGHES:
67, Frith Street, Soho, London.
34. WARD, ANTHONY, AND CO.:
Albion Mills, Leek, Staffordshire.
9. WARD, MARCUS, AND CO.:
67, Chandos Street, Covent Garden, London.
- 18, 62. WARD, JOHN:
5 and 6, Leicester Square, London.
48. WARDROBE AND SMITH:
Meadow Steel Works, Well Meadow Street, Sheffield.
38. WARMINGTON, F. W., AND CO.:
60, High Street, Colchester.
12. WARNERKE, LEON:
10, Linden Grove, Beckham Bye, London.
43. WARRINGTON WIRE ROPE WORKS CO., LIMITED:
Warrington.
47. WASHINGTON CHEMICAL CO.:
Newcastle-on-Tyne.
10. WATERLOW AND SONS, LIMITED:
25, Great Winchester Street, London.
30. WATERS, J. AND E., AND CO.:
Talbot Mills, Ellesmere Street, Hulme, Manchester.
10. WATERSTON, G., SONS, AND STEWART:
56, Hanover Street, Edinburgh.
10. WATKINS AND McCOMBIE:
5A, Cloak Lane, London.
12. WATKINS, HERBERT:
1, Torriano Avenue, Camden Road, London.
34. WATSON AND CO.:
London Mills, London Street, Leek, Staffordshire.

Class.

21. WATSON, BONTOR, AND CO. :
35, Old Bond Street, London.
60. WATSON, HENRY:
High Bridge Works, Newcastle-upon-Tyne.
39. WATSON, J., AND SON:
Moorgate Street Chambers, Moorgate Street, London.
33. WATSON, WILLIAM, AND SONS:
Dangerfield Mills, Hawick, Scotland.
17. WATT, WILLIAM:
21, Grafton Street East, London.
67. WATTS, JAMES WREN:
46, Old Street, St. Luke's, London.
- 21, 17. WAUGH AND SON:
3 and 4, Goodge Street, London.
27. WAVISH, JAMES:
7, Fenchurch Street, London.
43. THE WAYNES MERTHYR CO., LIMITED :
Bartholomew House, Bartholomew Lane, London.
85. WEBB, EDWARD, AND SONS:
Wordsley, Stourbridge.
19. WEBB, THOMAS, AND SONS:
Stourbridge.
26. WEBSTER, RICHARD:
5, Queen Victoria Street, London.
20. WEDGWOOD, J., AND SONS:
Etruria, Stoke-upon-Trent.
34. WELCH, MARGETSON, AND CO.:
16 and 17, Cheapside, London.
38. WELCH AND SONS:
44, Gutter Lane, London.
9. WELCH, WILLIAM JAMES:
25, Wellington Street, Strand, London.
47. WELDON, WALTER:
Rede Hall, Birstow.
33. WELSH WOOLLEN MANUFACTURING CO., LIMITED:
Newtown, Montgomeryshire.
- 47, 53. WENGER, ALBERT :
Parker Street Works, Hanley, Staffordshire.
52. WENHAM LAKE ICE CO.:
125, Strand, London.
50. WEST CUMBERLAND IRON AND STEEL CO., LIMITED :
Workington, Cumberland.
- 50, 59. WESTERN AND CO.:
Belvedere Road, Lambeth, London.
43. WESTERN MERTHYR COAL AND FUEL CO., LIMITED:
Swansea.
18. WESTLAKE, N. H. J. :
Goodyears, Hendon, near London.

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8. WHEELER, EDMUND:
48, Tollington Road, Holloway, London.
12. WHEELER, WILLIAM HENRY:
106, High Street, Oxford.
21. WHINCUP, JOSEPH:
86, Wood Street, London.
9. WHITAKER, JOSEPH:
12, Warwick Lane, Paternoster Row, London.
17. WHITBURN AND YOUNG:
Milford, near Godalming, Surrey.
56. WHITE, JOHN, AND SONS:
Park Road, Bingley, Yorkshire.
43. WHITE, W., AND SON:
345, Oxford Street, London.
66. WHITE, WILLIAM GEORGE:
23, Fenchurch Street, London.
72. WHITEHEAD AND CO., LIMITED:
110, Fenchurch Street, London.
66. WHITEHEAD, JOHN, AND CO.:
Albert Works, Preston, Lancashire.
33. WHITEHEAD, R. R., AND BROS., LIMITED:
10, Endell Street, Long Acre, London.
67. WHITE STAR LINE (ISMAY, IMRIE, & CO.):
10, Water Street, Liverpool.
12. WHITING, MATTHEW:
Lavender Hill, Wandsworth, Surrey.
54. WHITLEY, JOHN R.:
Albert Park, Didsbury, Manchester.
43. WHITWELL, THOMAS:
Thornaby Iron Works, Stockton-on-Tees.
- 54, 55, 67, 68. WHITWORTH, SIR JOSEPH, AND CO., LIMITED:
44, Chorlton Street, Manchester.
9. WHYMPER, EDWARD:
45, Lambeth Road, London.
21. WIDNELL, HENRY, AND CO.:
Lasswade, near Edinburgh.
43. WIGAN COAL AND IRON CO., LIMITED:
Wigan.
72. WIGAN, HENRY, AND CO.:
Swan Lane, Upper Thames Street, London.
43. WIGGIN, HENRY, AND CO.:
55, George Street, Parade, Birmingham.
- 54, 67. WIGZELL, HALSEY, AND CO.:
82, Mark Lane, London.
29. WILDE, JAMES, AND SON:
The Brush Factory, Oldham.
52. WILDER, JOHN:
Yield Hall Foundry, Reading.
21. WILDEY, WM., AND CO.:
13, Holland Street, Blackfriars, London.

Class.

31. WILFORD, J., AND SONS:
Brompton, near Northallerton.
47. WILKINSON, HEYWOOD, AND CLARK:
Caledonian Works, Battle Bridge, London.
33. WILLANS, THOS. B., AND CO.:
Vale Mills, Rochdale.
18. WILLIAMS, G. A., AND SON:
21, Queen's Road, Bayswater, London.
30. WILLIAMS, SONS, AND BROOKES:
12, Birchin Lane, Manchester.
47. WILLIAMS, THOMAS, AND DOWER:
Star Chemical Works, Brentford, Middlesex.
75. WILLIAMS, WILLIAM, AND SONS:
19, Regent Quay, Aberdeen.
21. WILLIS, H. R., AND CO.:
Kidderminster.
10. WILLIS, WILLIAM HENRY, AND CO.:
80, Long Acre, London.
86. WILLS, JOHN:
Onslow Crescent, South Kensington, London.
47. WILSON AND CO.:
Chemical Works, Jubilee Street, Mile End Road, London.
83. WILSON, BRICE:
Newbury, Berkshire.
- 58, 63. WILSON (NEWTON), AND CO.:
144, High Holborn, London.
49. WILSON, WALKER, AND CO.:
Sheepscar Leather Works, Leeds.
70. WILSON, THOS.:
122, Main Street, Anderston, Glasgow.
62. WINDOVER, C. S.:
32 and 33, Long Acre, London.
17. WINFIELD, R. W., AND CO.:
Cambridge Street Works, Birmingham.
10. WOLFF, E., AND SON:
55, Great Queen Street, Lincoln's Inn, London.
54. WOLSTENCROFT, T., AND CO.:
46, Ludgate Hill, London.
30. WOOD AND BREARLEY:
Palace Street, Manchester.
66. WOOD AND IVERY, LIMITED:
Albion Works, West Bromwich.
48. WOODFIELD, WILLIAM, AND SONS:
Easemore Works, Redditch.
- 52, 68. WOODS, COCKSEGE, AND CO.:
Suffolk Iron Works, Stowmarket.
21. WOODWARD, GROSVENOR, AND CO.:
Stour Vale Mills, Kidderminster.
40. WOODWARD, JAMES, AND SONS:
64, St. James's Street, London.

Class.

22. WOOLLAMS, WILLIAM, AND CO.:
110, High Street, Manchester Square, London.
33. THE WOOLLEN MANUFACTURERS' ASSOCIATION OF THE
HUDDERSFIELD INCORPORATED CHAMBER OF COM-
MERCE:
Huddersfield.
10. WOOLLEY AND CO.:
210, High Holborn, London.
51. WOOLNOUGH, W. AND C., AND CO.:
Ceres Iron Works, Kingston-on-Thames.
18. WORNUM, ROBERT, AND SONS:
16, Store Street, Bedford Square, London.
59. WORSSAM, SAMUEL, AND CO.:
Oakley Works, King's Road, Chelsea, London.
66. WOULDHAM CEMENT CO.:
10A, King's Arms Yard, City, London.
47. WRIGHT AND HOLDSWORTH:
91, St. James's Road, Brixton, London.
75. WRIGHT, HERBERT, AND CO.:
The Diamond Brewery, Dover.
- 27, 53. WRIGHT, JOHN, AND CO.:
Essex Works, Broad Street, Birmingham.
50. WRIGHT, PETER, AND SONS:
Constitution Hill Works, Dudley.
66. WRIGHT, SUTCLIFFE, AND SON:
Adelaide Street, Gibbet Street, Halifax.
43. WRIGHT, W. B., AND CO.:
St. Philip's, Bristol.
45. WRIGHT, ROBERT:
16, Princes Street, Edinburgh.
53. WRIGHT, WILLIAM:
London Road, Highfields, Sheffield.
62. WYBURN AND CO.:
121, Long Acre, London.
47. WYNDHAM AND CO.:
37, Eastcheap, London.

Y.

28. YARDLEY AND CO.:
7, Vine Street, Bloomsbury, London.
12. YORK, FREDERICK:
87, Lancaster Road, Notting Hill, London.
47. YORKSHIRE VARNISH CO.:
39, Upper Thames Street, London.
31. YORK STREET FLAX SPINNING CO., LIMITED:
Belfast, Ireland.

Class.

75. YOUNG, J., AND SON :

Dorking.

47. YOUNG'S PARAFFIN LIGHT AND MINERAL OIL CO.,
LIMITED:

13, Dundas Street, Glasgow.

Z.

65. ZIMDARS, C. E.:

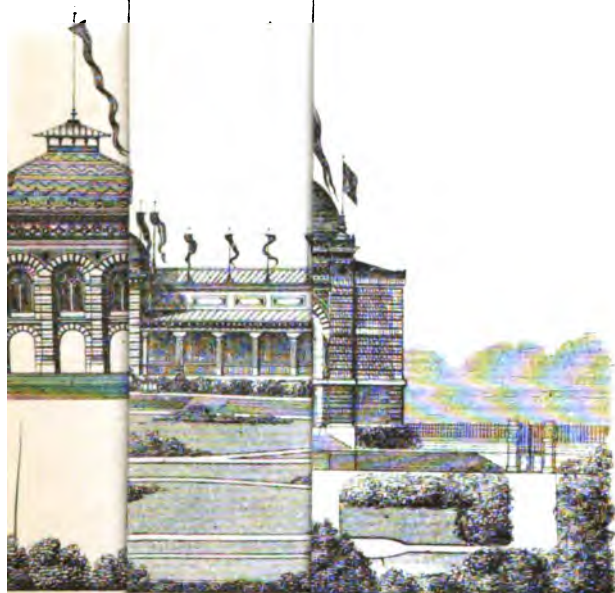
327, Gray's Inn Road, London.

60. ZUCCATO AND WOLFF:

19, Charterhouse Street, Holborn Viaduct, London.



LE



14. Luty Bedford Street (from Garden, London)

EVAT

[REDACTED]

CATALOGUE.



CATALOGUE.

FIRST GROUP.

WORKS OF ART.

CLASS I.—OIL PAINTINGS.

Paintings on canvas, on panel, and on other grounds.

CLASS II.—VARIOUS PAINTINGS AND DRAWINGS.

Miniatures, water-colour paintings, pastels, and drawings of every kind; paintings on enamel, earthenware and porcelain; cartoons for stained glass windows and frescoes.

CLASS III.—SCULPTURE AND DIE SINKING.

Sculpture in high relief, bas-reliefs, chased and repoussé work. Medals, cameos, engraved stones, Niello work.

CLASS IV.—ARCHITECTURAL DRAWINGS AND MODELS.

Studies and details. Elevations and plans of buildings. Restorations based upon existing ruins or documents.

CLASS V.—ENGRAVINGS AND LITHOGRAPHS.

Engravings, coloured engravings. Lithographs executed with pencil and with brush, chromo-lithographs.

LIST OF CONTRIBUTORS WHO HAVE KINDLY
PLACED THEIR COLLECTIONS OF WORKS OF
ART AT THE DISPOSAL OF THE ROYAL COM-
MISSION.

HER MAJESTY THE QUEEN.

HIS ROYAL HIGHNESS THE PRINCE OF WALES, K.G.

Names.	Addresses.
Agnew, Miss Caroline -	Summer Hill, Pendleton, Manchester.
Agnew, Messrs. T., and Sons -	Exchange Street, Manchester.
Agnew, William -	Summer Hill, Pendleton, Manchester.
Agnew, Mrs. T. -	Fairhope, Eccles, near Manchester.
Allday, E. -	Sandon Road, Edgbaston, Birmingham.
Armstrong, Sir William -	Newcastle-on-Tyne.
Art Union of London, The -	444, West Strand, London.
Austin, Wm. -	Ellermede, Totteridge.
Barber, J. -	20, Westbourne Terrace, London.
Barker, Major -	Holmesfield, Wakefield.
Baring, T. C., M.P. -	8, Bishopgate Street Within, London.
Barr, E. G. -	76, Holland Park, London.
Baumann, A. -	77, Holland Park, London.
Beaumont, Somerset -	Shere, near Guildford, Surrey.
Beale, Dr. Lionel -	61, Grosvenor Street, London.
Beddington, G. H. -	2, Pembridge Square, London.
Bell, Alfred -	Bayford House, Roslyn Park, Hampstead.
Bell, George -	York Street, Covent Garden, London.
Bessemer, Henry -	Denmark Hill, Surrey.
Billing, M. -	Livery Street, Birmingham.
Bischoffsheim, H. L. -	Bute House, South Audley Street, London.
Bishop, A. -	Severn Villa, Highbury New Park, London.
Blackwell, T. -	Brooks Hill, Harrow Weald.
Bodley, G. F. -	25, Church Row, Hampstead.
Bolckow, H. W. F., M.P. -	Marton Hall, Middlesborough-on-Tees.
Bollams, E. -	Dudley House, Kenilworth.
Bolton, Lieut.-Col. -	4, Broad Sanctuary, Westminster, London.
Bourne, S. -	Simla Villa, Waverley Street, Nottingham.
Bowman, W. -	5, Clifford Street, Bond Street, London.
Bowring, J. C. -	Forest Farm, Windsor.
Brassey, H.A., M.P. -	6, Cromwell Houses, London.
Brockbank, W. -	Brockhurst, Didsbury, near Manchester.
Brocklebank, Ralph -	Childwall Hall, Liverpool.
Brooks, Henry -	5, Hampstead Hill Gardens, London.
Bullock, G. -	2, Holland Park, London.
Bullock, G. W. -	Ellesmere Park, Eccles, near Manchester.
Burges, W. -	Melbury Road, Holland Park, London.
Burgess, J. B., A.R.A. -	205, Maida Vale, London.
Burnett, G. R. -	84, Phillimore Gardens, London.
Burton, J. -	Tower House, Streatham.
Campbell, Colin Minton, M.P. -	Stoke-on-Trent.
Carr, J. -	Eyre Street, Sheffield.
Carver, W. -	Old Trafford, Manchester.
Case, Mrs. -	27, Inverness Terrace, Kensington, London.
Cavendish, Lord Frederick Charles, M.P. -	21, Carlton House Terrace, London.
Chapman and Hall, Messrs. -	193, Piccadilly, London.

Names.	Addresses.
Christie, W. L., M.P. -	Glyndebourne, Lewes.
Clabburn, W. H. -	Norwich.
Clarendon Club, The -	Manchester.
Cleveland, The Duke of, K.G.	1, St. James's Square, London.
Cochrane, W. -	Gosforth, Newcastle-on-Tyne.
Coleman, E. J. -	Stoke Park, near Windsor.
Collard, C. L. -	Ravensthorpe, Bournemouth.
Cookson, W. S., Executors of the late.	
Coope, O. E., M.P. -	Rochetts, Brentwood.
Cosens, F. W. -	27, Queen's Gate, London.
Cosier, R. A. -	23, Upper Phillimore Gardens, London.
Cotman, T. W. -	Ipswich.
Courtauld, Louis -	3, Northumberland Avenue, Putney, London.
Cowper-Temple, Rt. Hon. W. F., M.P.	Broadlands, Romsey.
Craven, F. -	Thornbridge, Bakewell.
Dalziel, E. -	33, Belsize Park Gardens, London.
Dalziel, G. -	St. George's Terrace, Regent's Park, London.
De-la-Warr, Earl -	Buckhurst, Withyam, Sussex.
Denny, P. -	Helenslee, Dumbarton, N. B.
Dewhurst, H. -	Clough Hall, Huddersfield.
Donald, J. -	5, Queen's Terrace, Glasgow.
Eastlake, W. -	3, Buckland Terrace, Plymouth.
Eaton, H. W., M.P. -	1, Princes Gate, London.
Elliott, J. J. -	55, Baker Street, London.
Ellis, Col. -	Portland Place, London.
Fennessey, Rodney J. -	6, Langham Street, London.
Fenton, W. -	Dutton Manor, Langridge, near Preston.
Fenwick, G. F. -	
Fine Art Society, The -	New Bond Street, London.
Finlay, J. H. -	26, Glencairn Crescent, Edinburgh.
Firth, Mark -	Oakbrook, Sheffield.
Fishmongers, the Company of	Fishmongers' Hall, London.
Foley, J. H., The executors of the late.	Osnaburgh Street, London.
Foot, Mrs. -	Leigham Court Road, Streatham.
Foster, Birket -	The Hill, Witley, Surrey.
Fowler, John -	Thornwood Lodge, Campden Hill, London.
Fox, G. -	Elmhurst Hall, Lichfield.
Fraser, P. Allen -	Hospitalsfield, Arbroath, Forfarshire.
Fry, C. E. -	55, Baker Street, Portman Square, London.
Galloway, C. J. -	Thorneyholme, Old Trafford, Manchester.
Galloway, John, jun. -	The Cottage, Old Trafford, Manchester.
Galloway, Hy. -	Manor Croft, Urmston, near Manchester.
Galsworthy, J. -	Coombe Leigh, Kingston Hill, Surrey.
Gambart, E. -	Les Palmiers, Nice, Alpes Maritimes, France.
Gamble, James -	24, Rich Terrace, South Kensington, London.
Gassiot, C. -	Upper Tooting.
Geflowaki, E. -	21, Camden Road, London.
Gilbey, Hy. -	1, Park Crescent, Portland Place, London.
Gilbey, W. -	Elsingham Hall, Bishop Stortford.
Gosling, S. F. -	Lee House, Biddulph, near Congleton.
Graham, W. -	35, Grosvenor Place, London.
Grainger, C. -	19, Bolton Gardens, London.
Graves, Henry. -	Pall Mall, London.
Gurney, J. -	Sprowston Hall, Norwich.

Names.	Addresses.
Haag, Carl - - -	Ida Villa, Lyndhurst Road, Hampstead.
Halford, A. D. - - -	50, Prince's Gate, London.
Hall, H. T. - - -	Maid's Causeway, Cambridge.
Hargreaves, Col. - - -	Maiden Erlegh, Reading.
Harris, A. - - -	Lunefield, Kirkby Lonsdale.
Haslam, J. C. - - -	Gilnow House, Bolton.
Hawkshaw, Sir John - - -	Hollycombe, Liphook, Hants.
Hepburn, T. - - -	Clapham Common, London.
Heugh, John - - -	12, Upper Brook Street, London.
Hill, T. D. - - -	21, Grosvenor Place, London.
Hill, Captain Henry - - -	53, Marine Parade, Brighton.
Hodgkinson, H. - - -	26, Lower Phillimore Place, London.
Hodgson, J. Stewart - - -	24, Princes Gardens, London.
Holden, Angus - - -	Woodlands, Bradford.
Holt, George - - -	21, Water Street, Liverpool.
Hopkins, R. - - -	Institute of Painters in Water Colours, Pall Mall, London.
Hornsby, E. - - -	Claremont Villa, Rectory Road, Beckenham.
Houldsworth, Jas. - - -	Coltness, Wishaw, N. B.
Huth, Louis - - -	28, Hertford Street, London.
Hyde, H. J. - - -	80, Tufnell Park Road, London.
"Illustrated London News," The proprietors of the.	Strand, London.
James, Sir Henry, M.P., Q.C.	New Court, Temple, London.
Jarvis, Lewis P. - - -	Midland Road, Bedford.
Kay, A. - - -	Cornhill Biggar, N. B.
Kennard, Coleridge - - -	Lubenham, Market Harborough.
Kennedy, E. S. - - -	6, Bedford Gardens, Kensington, London.
Knowles, Kaye - - -	Swinton Old Hall, near Manchester.
Leathart, James - - -	Brackendene, Gateshead, Northumberland.
Lehmann, F. - - -	15, Berkeley Square, London.
Leslie, G. D., R.A. - - -	8, Grove End Road, London.
Levita, Emile - - -	27, Ennismore Gardens, London.
Lewis, C. Mansel - - -	Ystradey, Llanelly, Carmarthenshire.
Leyland, F. R. - - -	49, Prince's Gate, London.
Lindsay, Col. Loyd, M.P. - - -	2, Carlton Gardens, London.
Liverpool, The Corporation of Lucas, C. - - -	Warnham Court, Horsham.
McGavin, J. - - -	19, Elmbank Terrace, Glasgow.
Macfarlane, W. - - -	22, Park Circus, Glasgow.
Magniac, C. - - -	Chesterfield House, South Audley Street, London.
Makins, H. F. - - -	8, Palace Gate, Kensington, London.
Mappin, J. N. - - -	Conduit Lodge, Blackheath.
Mappin, Newton - - -	Birchlands, Sheffield.
Marks, H. S., A.R.A. - - -	15, Hamilton Terrace, London.
Marsden, A. M. - - -	King Street, St. James', London.
Marshall, W. B. - - -	Bellefield, New Brighton, Liverpool.
Matthews, C. P. - - -	23, Hertford Street, London.
Mendel, Sam. - - -	The Manor House, Chislehurst.
Milbank, F. A., M.P. - - -	5, Moreton Gardens, South Kensington, London.
Mills, Sir Charles Henry, Bart., M.P.	Camelford House, Oxford Street, London.
Millward, W. - - -	Enderlie, Calthorpe Road, Edgbaston, near Birmingham.

Names.	Addresses.
Morgan, J. S. - -	13, Prince's Gate London.
Moir, Mrs. - - -	12, Hyde Park Street, London.
Morley, S., M.P. - -	16, Upper Brook Street, London.
Moseley, J. - - -	Cringle Hall, Levenshulme, near Manchester.
Moule, Miss Penelope. - -	East Dene, Bournemouth.
Moxon, C. - - -	61, Bedford Gardens, London.
Muir, W. - - -	42, Holland Park, London.
Murrieta, Mariano de - -	18, Pembridge Square, London.
Nettlefold, F. - - -	20, York Terrace, Regent's Park, London.
Nettlefold, J. H. - -	King's Field, King's Heath, near Birmingham.
Newall, W. J. - - -	33, South Street, Park Lane, London.
Nield, J. - - -	Dunster, Rochdale.
Northampton, the Marquess of - -	145, Piccadilly, London.
Northbrook, the Earl of - -	Stratton, Micheldever.
Office of Works, Her Majesty's - -	12, Whitehall Place, London.
Payle, F. C. - - -	Northcote, Reigate.
Pease, J. Whitwell, M.P. - -	Hutton Hall, Guisborough, Yorkshire.
Pender, John, M.P. - -	18, Arlington Street, London.
Pennington, F., M.P. - -	17, Hyde Park Terrace, London.
Perrins, J. Dyson - - -	Davenham Bank, Malvern.
Philip, G., junr. - - -	Caxton Buildings, Liverpool.
Phillipson, Hilton. - -	Tynemouth, Northumberland.
Pilgeram and Lefèvre, - -	1A King Street, St. James', London.
Pochin, H. D. - - -	Barn Elms, Barnes.
Pooley, C. J. - - -	Clarence Lodge, Victoria Park, Manchester.
Pope, S., Q.C. - - -	59, Lancaster Gate, London.
Potter, E. Crompton - -	Rusholme House, Manchester.
Powers, J. - - -	Swanswell, Coventry.
France, Reg. H. - - -	Frognal, Hampstead, London.
Pulley, J. - - -	Lower Eaton, Hereford.
Purvis, F. H. - - -	Fairlawn, Carleton Road, Tufnell Park, London.
Quilter, Wm. - - -	28, Norfolk Street, Park Lane, London.
Ravenshaw, Rev. T. F. - -	Pewsey Rectory, Wilts.
Reid, J. R. - - -	Woodburn, Rutherglen, near Glasgow.
Richards, T. - - -	31, Cambridge Street, Birmingham.
Roberts, Humphrey - -	2, The Esplanade, Waterloo, Liverpool.
Rougier, Hy. - - -	1, Inverness Gardens, London.
Royal Academy of Arts (The Council of the). - -	Burlington House, London.
Royal Artillery Mess Committee. - -	Woolwich.
Sandeman, A. G. - - -	5, Ennismore Gardens, London.
Sandeman, J. G. - - -	4, Carlton Terrace, Glasgow.
Sandeman, Lieut.-Col. - -	24, Cambridge Square, London.
Sartoris, E. J. - - -	1, Studio, Campden Hill Road, London.
Santurce, Jose de Murrieta, Marquis de. - -	11, Kensington Palace Gardens, London.
Schroeder, Baron H. von. - -	The Dell, Staines.
Schwabe, G. C. - - -	Yewden, Henley-on-Thames.
Scott, W. H. - - -	St. Oswin's, Tynemouth, Northumberland.
Secker, J. H. - - -	8, South Eaton Place, London.
Shand, Lord. - - -	Edinburgh.
Sibeth, E. - - -	41, Cleveland Square, London.

Names.	Addresses.
Simonds, B. - -	St. Mary's Priory, Reading.
Smith, George - -	15, Waterloo Place, London.
Stevenson, A. S. - -	Tynemouth, Northumberland.
Strahan, A. - -	9, Hanover Terrace, Regent's Park, London.
Street, G. E., R.A. - -	14, Cavendish Place, Cavendish Square, London.
Sutton, Sir Richard, Bart. -	Barton Court, Hungerford, Berks.
Taylor, James - -	Whirley, Wigan.
Taylor, T. - -	1, Hyde Park Gardens, London.
Thompson, Sir Henry - -	35, Wimpole Street, London.
Tooth, A. - -	5, Haymarket, London.
Turner, H. J. - -	Stockleigh House, Regent's Park, London.
Twining, Richard - -	184, Cromwell Road, London.
Virtue, James - -	Oatlands Park.
Virtue, Messrs., & Co. -	294, City Road, London.
Walker, J. - -	
Walker, T. E., M.P. - -	Studley Castle, Studley, near Birmingham.
Ward, W. G. - -	Newcastle Drive, Nottingham.
Wardell, J. - -	Thorncliffe, Rathgar, Dublin.
Waring, Hy. - -	Beenham House, Reading.
Waring, Wm. - -	39, Prince's Gardens, London.
Warner, The Rev. S. B. -	28, Stanhope Gardens, London.
Waterlow, W. B. - -	Hightrees, Redhill, Surrey.
Webster, W. - -	8, St. Martin's Place, London.
Wertheimer, C. J. - -	16, Ulster Place, Regent's Park, London.
Westminster, Duke of, K.G. -	Grosvenor House, 38, Upper Grosvenor Street, London.
Whalley, T. - -	Liverpool.
White, E. F. - -	13, King Street, St. James', London.
White, G. F. - -	1, Porchester Gate, Hyde Park, London.
White, J. Forbes. - -	209, Union Street, Aberdeen.
Whitehead, J. - -	Park Hill, Higher Broughton, Manchester.
Whitelaw, A., M.P. - -	91, Eaton Square, London.
Whitfield, G. B. - -	The Hollies, Smallheath, Birmingham.
Willis, H. R. - -	The Shrubbery, Wolverley.
Wilson, J. - -	Aucheneck, N. B.
Wyndham, The Hon. Percy, M.P. - -	44, Belgrave Square, London.

CLASS 1.

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(*Member of the Society of Painters in Water Colours. Medal (Paris), 1864. 2nd class medal (Paris Universal Exhibition, 1867). Knight of the Legion of Honour.*)

1. THE PICTURE GALLERY. Lent by E. Gambart, Esq.
2. THE SCULPTURE GALLERY. Lent by E. Gambart, Esq.
3. A ROMAN EMPEROR. Lent by E. Gambart, Esq.
4. THE VINTAGE FESTIVAL. Lent by Baron von Schroeder.
5. AN AUDIENCE AT AGRIPPA'S.
Lent by Jose de Murrieta, Marquis de Santurce.
6. A FÊTE INTIME. Lent by Jose de Murrieta, Marquis de Santurce.
7. AFTER THE DANCE. Lent by H. F. Makina, Esq.
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9. A PYRRHIC DANCE. Lent by Charles Gassiot, Esq.
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ALMA TADEMA, MRS. L., 17, Titchfield Terrace Regent's Park, London.

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18. TOILERS OF THE FIELD. Lent by J. J. Elliot, Esq.
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Lent by G. C. Schwabe, Esq.
34. CONSTANCE. Lent by G. C. Schwabe, Esq.
35. VICTORY! Lent by J. Nield, Esq.
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JACQUES CLEMENT TO ASSASSINATE HENRI III.
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- CHALMERS, G. F.**, R.S.A. (died February 1878).
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- 62. CONTENTMENT.
- 63. THE APPROACH OF NIGHT.

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- 67. AFTER THE FALL.
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- 77. THE DERBY DAY. Lent by E. Gambart, Esq.
- 78. THE RAILWAY STATION. Lent by Hy. Graves, Esq.
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88. RACHEL. Lent by H. W. F. Bolckow, Esq., M.P.

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90. SPRING. Lent by T. Blackwell, Esq.

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KERRING, G. B., 45, Grove End Road, London.

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114. THE FLOOD; WINDSOR, 1877. Lent by H. T. Hall, Esq.
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117. RUNNING ASHORE. Lent by J. Donald, Esq.

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118. SCARBOROUGH.

JOHNSON, C. M., Morven House, Steele's Road, Haverstock Hill,
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JONES, E. BURNE, The Grange, North End, Fulham, London.

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127. **THE INDIAN TENT.**
Lent by His Royal Highness the Prince of Wales.

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Lent by Wm. Bowman, Esq.

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MACBETH, R. W., 6, The Mall, Haverstock Hill, London.

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Lent by E. Allday, Esq.

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Lent by E. Allday, Esq.
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157. PORTRAIT OF MRS. J. WILSON.

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Lent by A. M. Marsden, Esq.

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Lent by C. Moxon, Esq.

160. OUT IN THE COLD.

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Lent by H. J. Turner, Esq.

162. ST. FRANCIS AND THE BIRDS.

Lent by Angus Holden, Esq.

163. WHAT IS IT?

Lent by G. Holt, Esq.
(See *Water Colours*.)

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 165. EVEN-SONG. Lent by The Hon. Percy Wyndham, M.P.
 166. THE MILKMAID. Lent by G. Hamilton Trist, Esq.
 167. CHILDREN FISHING. Lent by Wm. Agnew, Esq.
 168. NELLE MAREMME. Lent by Sir Charles Henry Mills, Bart., M.P.
 169. CHILDREN WITH CALVES. Lent by E. J. Sartoris, Esq.
 170. THE CAST SHOE. Lent by J. Stewart Hodgson, Esq.

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171. CHILL OCTOBER. Lent by Sir William Armstrong.
 172. HEARTS ARE TRUMPS. (Portraits of Mrs. Secker, Mrs. Blennerhassett, and Miss Armstrong).
 Lent by J. H. Secker, Esq.
 173. A YEOMAN OF THE GUARD. Lent by H. Hodgkinson, Esq.
 174. O'ER THE HILLS AND FAR AWAY.
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 175. THE NORTH-WEST PASSAGE.
 Lent by H. W. F. Bolckow, Esq., M.P.
 176. YES OR NO? Lent by Mrs. Moir.
 177. THE GAMBLER'S WIFE. Lent by Messrs. T. Agnew and Sons.
 178. PORTRAIT OF MRS. BISCHOFFSHEIM.
 Lent by H. L. Bischoffsheim, Esq.
 179. THE SISTERS. Lent by C. P. Matthews, Esq.
 180. PORTRAIT OF THE DUKE OF WESTMINSTER.
 Lent by the Duke of Westminster, K.G.

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 183. THE PALM FAN. Lent by Mariano de Murrieta, Esq.

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(Associate of the Society of Painters in Water Colours.)

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 185. A BRIGHT MORNING AFTER A GALE. Lent by J. Powers, Esq.

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187. THE MOWERS. Lent by Captain Hill.
 188. THE REAPER AND THE FLOWERS. Lent by Captain Hill.
 189. THE SAILOR'S WEDDING. Lent by W. Webster, Esq.

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190. GARDEN POPPIES. Lent by Hy. Dewhurst, Esq.

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192. THE BILL OF SALE. Lent by W. Macfarlane, Esq.
193. ESCAPED. Lent by W. Macfarlane, Esq.
194. THE DUKE'S ANTECHAMBER. Lent by O. E. Coope, Esq., M.P.
195. PORTRAIT.

OUTESS, W. W., A.R.A., 43, Bloomsbury Square, London.

196. PORTRAIT OF THE RIGHT HON. RUSSELL GURNEY, late
RECORDER OF LONDON.
Lent by the Worshipful Company of Fishmongers.
197. PORTRAIT OF H. D. POCHIN, ESQ. Lent by H. D. Pochin, Esq.
198. PORTRAIT OF WILLIAM SALE, ESQ.
Lent by the Clarendon Club, Manchester.

PATON, SIR WOLFE, R.S.A., 33, George Square, Edinburgh.

199. THE GOOD SHEPHERD. Lent by Her Majesty the Queen.
200. CALIBAN LISTENING TO THE MUSIC. Lent by P. Denny, Esq.

PELLE, J. T., 14, Fitzroy Street, Fitzroy Square, London.

201. THE BROKEN NECKLACE.

PERUGINI, C. M., 141, Warwick Street, Eccleston Square, London.

202. A LABOUR OF LOVE. Lent by Hy. Bessemer, Esq.
203. A PORTRAIT.

PETTER, JOHN, R.A., R.H.S.A., 21, St. John's Wood Road, London.

204. TERMS TO THE BESIEGED. Lent by Wm. Waring, Esq.
205. PORTRAIT OF THE RIGHT REV. BISHOP ULLATHORNE.
Lent by T. Richards, Esq.
206. THE FLAG OF TRUCE. Lent by Newton Mappin, Esq.
207. TREASON. Lent by Newton Mappin, Esq.
208. THE THREAT. Lent by A. M. Marsden, Esq.
209. PORTRAIT IN COSTUME OF THE XVI. CENTURY.
Lent by A. Tooth, Esq.
210. PORTRAIT OF E. S. KENNEDY, ESQ.
Lent by E. S. Kennedy, Esq.

PHILLIP, JOHN, R.A. (born 1817, died 1867).

211. DOUBTFUL FORTUNE. Lent by F. W. Cosens, Esq.
212. ROUND THE BRASERO. Lent by John Fowler, Esq.
213. DOLORES. Lent by Hy. Rougier, Esq.
214. WINE DRINKERS. Lent by Ralph Brocklebank, Esq.

PICKERING, J. L., St. Alban's Lodge, Tunbridge Wells.

215. LONELY LANDS.

POYNTER, H. J., R.A., 11, Albert Terrace, Knightsbridge, London.

216. ISRAEL IN EGYPT. Lent by Sir John Hawkshaw.

217. PROSERPINE. Lent by Wm. Brookbank, Esq.

Exhibited at the Royal Academy in 1869.

218. THE CATAPULT. Lent by J. Whitwell Pease, Esq., M.P.

219. "FORTITUDE." } Cartoons executed in Mosaic for West-
220. "PURITY." } minster Great Hall.

Lent by Her Majesty's Office of Works.
 (See *Water Colours*.)

PRINSEP, VAL, 6, Holland Park Road, Kensington.

221. READING SIR CHARLES GRANDISON.

Lent by F. W. Cosens, Esq.

222. LINEN GATHERERS.

223. A BIENTÔT.

RAVEN, J. (died 1877).

224. ASPENS IN SPRING BUD.

REDGRAVE, R., R.A., 18, Hyde Park Gate South, London.

225. STARTING FOR A HOLIDAY. Lent by A. Baumann, Esq.

226. DESERTED.

REID, G., R.S.A., 84, King Street, Aberdeen.

227. BROADSEA.

Lent by J. Forbes White, Esq.

RICHMOND, W. B., Beaver Lodge, Hammersmith.

228. PORTRAIT OF LADY FREDERICK CAVENDISH.

Lent by Lord Frederick Charles Cavendish, M.P.

229. THE LAMENT OF ARIADNE.

230. ANGEL WATCHERS.

RIVIÈRE, BRITON, A.R.A., 5, Marlborough Road, St. John's Wood, London.

231. CHARITY. Lent by Col. Loyd-Lindsay, M.P.

232. DANIEL. Lent by E. Crompton Potter, Esq.

233. THE LAST OF THE GARRISON. Lent by Col. Hargreaves.

ROBERTSON, H. R., Steele's Studios, Haverstock Hill, London.

234. WINTER.

Lent by Newton Mappin, Esq.

SANDYS, F.

235. MEDKA.

Lent by W. H. Clabburn, Esq.

SANT, J., R.A., 43, Lancaster Gate, London.

(*Principal Painter in Ordinary to the Queen.*)

236. THE EARLY POST.

237. ADVERSITY.

SMALL, WM., 294, Camden Road, London.

(*Member of the Institute of Painters in Water Colours.*)

238. THE WRECK.

Lent by S. Pope, Esq., Q.C.

(See *Water Colours*.)

SMART, J., R.S.A., 4, Picardy Place, Edinburgh.

239. **AMONG THE YELLOW CORN.**

STANHOPE, R. SPENCER, 4, Harley Place, London.

240. **THE WATER GATE.** Lent by G. F. Bodley, Esq.

241. **ON THE BANKS OF THE STYX.** Lent by J. Moseley, Esq.

STAPLES, Mrs., 30, Trafalgar Square, Fulham Road, London.

242. **WILL SHE ?**

STOCK, F. R., Stanhope Yard, Delancey Street, London.

243. **CINDERELLA.**

STONE, MARCUS, A.R.A., Melbury Road, Kensington, London.

244. **REJECTED.** Lent by Kaye Knowles, Esq.

245. **MY LADY IS A WIDOW, AND CHILDLESS.**
Lent by James Virtue, Esq.

STORRY, G. A., A.R.A., 58, St. Mary's Terrace, Paddington, London.

246. **THE OLD SOLDIER.** Lent by G. C. Schwabe, Esq.

247. **SCANDAL.** Lent by J. S. Morgan, Esq.

TENNISWOOD, G. F., Caton Lodge, Putney.

248. **MOUNTAIN TWILIGHT.**

TOPHAM, F. W. W., Ifield, Prince Arthur Road, Hampstead.

249. **WINGED PENSIONERS OF ASSISI.** Lent by J. C. Haalam, Esq.

WALKER, F., A.R.A. (born 1840 ; died 1875).

(Member of the Society of Painters in Water Colours.)

250. **THE OLD GATE.** Lent by G. E. Street, Esq., R.A.
(See Water Colours, and Black and White.)

WALKER, J. H., 4, Penywern Road, Earl's Court, London.

251. **PORTRAIT OF F. LEIGHTON, Esq., R.A.**

252. **ELSIE, DAUGHTER OF THE ARTIST.**

WALLIS, HENRY, 24, Brecknock Crescent, London.

253. **AT THE PRISON WINDOW.** Lent by J. Wardell, Esq.

254. **AUTUMN.**

WARD, E.M., R.A., 5, Queen's Villas, Windsor.

(2nd Class Medal Paris Universal Exhibition of 1855).

255. **LADY RUSSELL AND CHARLES II.** Lent by H. R. Willis, Esq.

256. **THE DAUGHTER OF A KING.** Lent by H. W. Eaton, Esq., M.P.

257. **ALICE LISLE CONCEALING THE FUGITIVES.**

Lent by G. Fox, Esq.

WARD, Mrs., 5, Queen's Villas, Windsor.

258. **CHILDHOOD OF JOAN OF ARC.** Lent by G. Bullock, Esq.

259. **PRINCESS CHARLOTTE OF WALES.**

WATERLOW, E. A., 3, St. Petersburg Place, Bayswater, London.

260. A ROCKY HEADLAND. Lent by W. B. Waterlow, Esq.

261. AUGUST MOON.

WATSON, J. D., 22, Saint Edmund's Terrace, Regent's Park, London.

(*Member of the Society of Painters in Water Colours.*)

262. "ONLY BEEN WITH A FEW FRIENDS." Lent by Wm. Scott, Esq.

263. THE GLEANER'S HARVEST. Lent by Wm. Cochrane, Esq.
(*See Water Colours.*)

WATTS, G. F., R.A., Little Holland House, Kensington, London.

264. PORTRAIT OF HIS GRACE THE DUKE OF CLEVELAND, K.G.
Lent by the Duke of Cleveland.

265. PALLAS, JUNO, AND VENUS. Lent by Lonis Huth, Esq.

266. PORTRAIT OF THE HON. MRS. PERCY WYNDHAM.
Lent by the Hon. Percy Wyndham, M.P.

267. LOVE AND DEATH.

268. ESAU.

269. GENERAL LOED LAWRENCE.

270. ROBERT BROWNING.

271. HERR JOACHIM.

272. P. H. CALDERON, R.A. (*See Sculpture.*)

WIGGALL, H., 85, Bryanston Square, London.

273. PORTRAIT.

WELLS, E. T., R.A., Thorpe Lodge, Campden Hill Road, London.

274. LETTERS AND NEWS AT THE LOCH SIDE.
Lent by the Council of the Royal Academy of Arts.

275. PORTRAIT OF MISS MAGNIAC. Lent by C. Magniac, Esq.

276. PORTRAIT OF MRS. COLERIDGE KENNARD.
Lent by Coleridge Kennard, Esq.

277. PORTRAIT OF DR. LIONEL BEALE. Lent by Dr. Lionel Beale.

WILLIE, W. L., 36, Gloucester Road, Regent's Park, London.

278. SEA BIRDS. Lent by J. B. Burgess, Esq., A.R.A.

WYNFIELD, D. W., 14, Grove End Road, St. John's Wood, London.

279. THE NEW CURATE. Lent by Messrs. Virtue & Co.

280. DEATH OF VILLIERS, DUKE OF BUCKINGHAM.

YEMMES, W. F., A.R.A., 4, Grove End Road, London.

281. AMY ROBSART. Lent by the Council of the Royal Academy of Arts.

282. THE LAST BIT OF GOSSIP. Lent by G. C. Schwabe, Esq.

283. POUR LES PAUVRES. Lent by Messrs. T. Agnew & Sons.

CLASS 2.

WATER COLOURS.

ABSOLON, J., 106, Palace Gardens Terrace, London.

(*Member of the Institute of Painters in Water Colours.*)

1. EMIGRANT SHIP; SUNDAY EVENING.
2. "THE HEROINES UNDERTOOK THE TASK
THRO' LANES UNKNOWN, O'ER STILES THEY CLAMBERED."
(*Gray.*)

ALLINGHAM, Mrs., 12, Trafalgar Square, Chelsea, London.

(*Member of the Society of Painters in Water Colours.*)

3. PAST WORK. Lent by H. J. Hyde, Esq.
4. YOUNG CUSTOMERS. Lent by G. Bell, Esq.
5. 'THE OLD MEN'S GARDENS, CHELSEA HOSPITAL.
Lent by Humphrey Roberts, Esq.

ANDREWS, G. H., The Cedars, New Brentford, Middlesex.

(*Member of the Society of Painters in Water Colours.*)

6. AN ITALIAN SEAPORT. Lent by S. F. Gosling, Esq.

ANGELL, Mrs., 44, Kensington Square, London.

(*Member of the Institute of Painters in Water Colours.*)

7. ROSES. Lent by Louis Huth, Esq.
8. RASPBERRIES. Lent by W. Eastlake, Esq.

AUMONIER, J., 136, Camden Road, London.

(*Associate of the Institute of Painters in Water Colours.*)

9. A FISHING VILLAGE. Lent by M. Billing, Esq.
(*See Oil Paintings, and Black and White.*)

BOUGH, SAM., R.S.A., 2, Hill Street, Edinburgh.

10. WINTON CASTLE.
11. ARRAN HILL, FROM KELLY PARK.

BOUVIER, AUG., 56, Alexandra Road, St. John's Wood, London.

(*Member of the Institute of Painters in Water Colours.*)

12. THE DANCE.
Lent by Colin Minton Campbell, Esq., M.P.

BOYCE, G. P., West House, Glebe Place, Chelsea, London.

(*Member of the Society of Painters in Water Colours.*)

13. ON THE SKIETS OF SMITHFIELD, LONDON.
Lent by G. D. Leslie, Esq., R.A.
14. WHERE STOOD BRIDEWELL HOSPITAL AND PRISON, LONDON.
Lent by W. Bowman, Esq., F.R.S.
15. ANCIENT HOUSE AND CHURCH AT LUDLOW, SHROPSHIRE.
Lent by C. Grainger, Esq.

BRADLEY, BASIL, 2, Clifton Villas, Maida Hill, London.

(Associate of the Society of Painters in Water Colours.)

16. MARY'S FAIR GIFT TO ROBIN. Lent by Thos. Whalley, Esq.

17. TEN MINUTES LATE FOR THE MEET.

Lent by J. Galsworthy, Esq.

BREWTHALL, E. F., The Mall, Park Road, Haverstock Hill, London.

(Associate of the Society of Painters in Water Colours.)

18. BEACHING THE BOAT.

(See Oil Paintings.)

BRIERLY, O. W., 38, Amptill Square, London.

(Associate of the Society of Painters in Water Colours.)

19. BLAKE WAITING TO ATTACK THE ROYALIST FLEET.

BUCKMAN, E., Highlight, Campden Hill, London.

(Associate of the Society of Painters in Water Colours.)

20. LONDON STREET CRIES.

Lent by A. Harris, Esq.

21. FOOTBALL.

Lent by Captain Hill.

CALLOW, W., Great Missenden, Bucks.

(Member of the Society of Painters in Water Colours.)

22. MENAGGIO; LAKE OF COMO.

23. CANAL SCENE, ROTTERDAM.

COLLIER, THOS., 56, Upper Park Road, Haverstock Hill, London.

(Member of the Institute of Painters in Water Colours.)

24. ARUNDEL PARK.

Lent by John Burton, Esq.

COOPER, T. S., R.A., 42, Chepstow Villas West, London.

25. A MONARCH OF THE MEADOWS.

(See Oil Paintings.)

COTMAN, F. G., 10, Boscobel Place, Alpha Road, London.

26. WARGRAVE CHURCH.

Lent by J. Barber, Esq.

27. FISHING HARBOUR AND VILLAGE ON THE SCOTCH COAST.

Lent by T. W. Cotman, Esq.

(See Oil Paintings.)

CRANE, WALTER, Beaumont Lodge, Wood Lane, Shepherd's Bush, London.

28. THE DEATH OF THE YEAR. Lent by Miss Penelope Moule.

29. ALMOND TREES ON MONTE PINCIO, ROME.

Lent by G. E. Street, Esq., R.A.

(See Oil Paintings.)

CRIDDLE, MRS., Addlestone, Weybridge.

(Member of the Society of Painters in Water Colours.)

30. OBSERVE HER EYES, THE FLATTERING TALE BELIEVED.

DALZIEL, E. G., 33, Belsize Park Gardens, London.

31. SHEEP.

Lent by E. Dalziel, Esq.

DILLON, FRANK, 13, Upper Phillimore Gardens, London.

32. IN THE HAREEM OF SHEIK SADAT.

(See Oil Paintings.)

DONSON, W. C. T., R.A., Eldon House, Roslyn Park, Hampstead, London.

(Member of the Society of Painters in Water Colours.)

38. UNA FASCINA DI OLIVE. Lent by E. F. White, Esq.

34. WAITING. Lent by Hy. Graves, Esq.

35. CAPRI PEASANT GIRL. Lent by T. C. Baring, Esq., M.P.

DONALDSON, A. M., 10, Argyll Road, Kensington, London.

36. VIEW OF CHESTER. Lent by B. Simonds, Esq.

37. VENICE FROM THE PUBLIC GARDENS.
Lent by R. Twining, Esq.
(See Oil Paintings.)

DUFFIELD, Mrs., 4, Upper Phillimore Gardens, London.

(Member of the Institute of Painters in Water Colours.)

38. GROUP OF FLOWERS. Lent by A. Bishop, Esq.

DUNCAN, M., 36, Upper Park Road, Haverstock Hill, London.

(Member of the Society of Painters in Water Colours.)

39. BRIG ON THE ROCKS NEAR DUNBAR, N.B.
Lent by Hy. Brooks, Esq.

EVANS, SAMUEL T. G., Eton College, Windsor.

(Associate of the Society of Painters in Water Colours.)

40. ROCK OF GIBRALTAR, NORTH FRONT.

FARREY, M. H., 10, Elsham Road, Kensington, London.

(Member of the Institute of Painters in Water Colours.)

41. THE HIGHER POOL. Lent by F. A. Milbank, Esq., M.P.
(See Oil Paintings.)

FISHER, MARK, 2, The Mall, Park Road, Haverstock Hill, London.

42. CANAL JUMP ON THE OUSE. Lent by John Whitehead, Esq.
(See Oil Paintings.)

FOSTER, BIRKET, The Hill, Witley, Surrey.

(Member of the Society of Painters in Water Colours.)

43. FALLS OF THE TUMMEL.

44. ON THE THAMES.

45. THE MARKET AT TOULON. Lent by H. Gilbey, Esq.

FRIPP, A. D., 1, Bellevue, Hampstead, London.

(Member of the Society of Painters in Water Colours.)

46. DINNER TIME AT THE PURBECK QUARRIES.
Lent by the Corporation of Liverpool.

47. THE QUARRY PATH. Lent by John Fowler, Esq.

48. WORTLEBERRY GATHERERS. Lent by G. Philip, Esq., jun.

GILBERT, SIR JOHN, R.A., Vanbrugh Park, West, Blackheath.

(President of the Society of Painters in Water Colours.)

49. OTHELLO, DESDEMONA, AND BRABANTIO BEFORE THE DOGE
AND SENATE. Lent by C. L. Collard, Esq.

50. THE GUIDE THROUGH THE FOREST.

Lent by John Burton, Esq.

51. JOAN OF ARC AT THE CORONATION OF CHARLES VII.*(See Oil Paintings.)***GILLIES**, Miss, 25, Church Row, Hampstead, London.*(Associate of the Society of Painters in Water Colours.)***52. THE END OF THE PILGRIMAGE.**

Lent by W. B. Marshall, Esq.

GOODALL, E. A., 57, Fitzroy Road, Primrose Hill, London.*(Member of the Society of Painters in Water Colours.)***53. NEAR THE PYRAMIDS OF SAKHARA.****54. SILK AND CALICO BAZAAR.****GREEN, C.**, Charlecote, Hampstead Hill Gardens, London.**55. A COUNTRY CIRCUS.**

Lent by W. Carver, Esq.

56. HERE THEY COME : DERBY DAY.Lent by C. J. Wertheimer, Esq.
*(See Oil Paintings, and Black and White.)***GREEN, TOWNLEY**, 78, Park Road, Haverstock Hill, London.*(Associate of the Institute of Painters in Water Colours, London.)***57. A ROADSIDE INN.**

Lent by E. Dalziel, Esq.

GREGORY, E. J., 6, Abercorn Place, St. John's Wood, London.*(Member of the Institute of Painters in Water Colours.)***58. SIR GALAHAD.**

Lent by C. J. Galloway, Esq.

59. ST. GEORGE.Lent by C. J. Galloway, Esq.
*(See Oil Paintings, and Black and White.)***HAAG, CARL**, Ida Villa, Lyndhurst Road, Hampstead, London.*(Member of the Society of Painters in Water Colours.)***60. TYROLESE HUNTSMAN AND MOUNTAIN GIRL.**

Lent by E. Sibeth, Esq.

61. DANGER IN THE DESERT.

Lent by W. Field, Esq.

62. THE KORAN READER.

Lent by R. H. Prance, Esq.

HALE, W. M., 4, Manchester Street, Manchester Square, London.*(Associate of the Society of Painters in Water Colours.)***63. ON THE COAST OF SOMERSET.****64. GREAT ROCK OF COIGACH.****HARRISON**, Miss, 115, Gloucester Terrace, Hyde Park, London.*(Associate of the Society of Painters in Water Colours.)***65. WILD HYACINTHS.****HAYES, E.**, R.H.A., Briscoe House, Steele's Road, Haverstock Hill, London.*(Member of the Institute of Painters in Water Colours.)***66. NORTH SEA TRAWLERS LEAVING GREAT YARMOUTH.**

Lent by J. H. Purvis, Esq.

HEEROMER, H., Dyreham, Bushey, Herts.

(*Member of the Institute of Painters in Water Colours.*)

67. WOODCUTTERS. Lent by C. E. Fry, Esq.
 68. THE POACHER'S FATE. Lent by C. E. Fry, Esq.
 (*See Oil Paintings, and Etchings.*)

HINE, H. G., 130, Haverstock Hill, London.

(*Member of the Institute of Painters in Water Colours.*)

69. FOLKINGTON HILL, SUSSEX, HAYMAKING. Lent by A. Bishop, Esq.
 70. CORFE CASTLE, DORSETSHIRE. Lent by A. Bishop, Esq.
 71. MOONLIGHT, SHOREHAM, SUSSEX. Lent by A. Bishop, Esq.

HOLIDAY, H., Oak Tree House, Hampstead, Middlesex.

72. IDEAL PORTRAIT OF DANTE.

HOLLOWAY, C. E., Hogarth Club, 84, Charlotte Street, Fitzroy Square, London.

(*Associate of the Institute of Painters in Water Colours.*)

73. THE OLD TOWER AT RYE, SUSSEX. Lent by C. J. Galloway, Esq.
 (*See Oil Paintings.*)

HOPKINS, A., 22, St. Ann's Villas, Notting Hill, London.

(*Associate of the Society of Painters in Water Colours.*)

74. THE QUAY. Lent by J. Gurney, Esq.
 (*See Black and White.*)

HOUGHTON, A. E. (born 1836 ; died 1875).

(*Member of the Society of Painters in Water Colours.*)

75. SHEIKH HAMEL. Lent by G. Dalziel, Esq.

HUNT, A. W., 1, Tor Villa, Campden Hill, London.

(*Member of the Society of Painters in Water Colours.*)

76. ULLSWATER.
 77. LOCH CORUISKH, ISLE OF SKYE. (*See Oil Paintings.*)

JACKSON, S. P., 1, River Terrace, Henley-on-Thames.

(*Member of the Society of Painters in Water Colours.*)

78. EVENING ON THE THAMES. Lent by the Rev. S. B. Warner.
 79. ST. MICHAEL'S MOUNT, CORNWALL. Lent by the Rev. S. B. Warner.

JOHNSON, E. E., Sible Hedingham, near Halstead, Essex.

(*Member of the Society of Painters in Water Colours.*)

80. THE ANXIOUS MOTHER. Lent by Birket Foster, Esq.
 81. THE BAILIFF'S DAUGHTER.

JOHNSON, H., 12, Loudon Road, St. John's Wood, London.

(*Member of the Institute of Painters in Water Colours.*)

82. THE LAND OF LORNE. Lent by J. D. Hill, Esq.
 83. DAWN. Lent by H. J. Hyde, Esq.

- JONES, E. BURNE**, The Grange, North End, Fulham, London.
84. LOVE AMONG THE RUINS. Lent by F. Craven, Esq.
(See Oil Paintings.)
85. LOVE AS WISDOM. Lent by W. Graham, Esq.
- JOPLING, J. M.**, 8, Clareville Grove, South Kensington, London.
86. PREPARING YE BANQUET.
87. SKIPPING.
88. THE BLACK COUNTRY.
- KILBURN, G. G.**, Hawkhurst Road, Steele's Road, Haverstock Hill, London.
(Member of the Institute of Painters in Water Colours.)
89. WHEN OUR GUDEMAN'S AWA'.
- KNIGHT JOSEPH**, Tyntwll, near Llanrwst, North Wales.
90. TWILIGHT. Lent by G. F. White, Esq.
(See Oil Paintings, and Black and White.)
- LEWIS, J. F.**, R.A. (born 1805, died 1876).
91. STREET AT CAIRO. Lent by J. Dyson Perrins, Esq.
92. THE LILIUM AURATUM. Lent by Wm. Quilter, Esq.
93. THE SCHOOL, CAIRO. Lent by Wm. Quilter, Esq.
94. THE PRAYER OF FAITH SHALL HEAL THE SICK.
Lent by Wm. Quilter, Esq.
(See Oil Paintings.)
- LINTON, J. D.**, Ettrick House, Steele's Road, Haverstock Hill, London.
(Member of the Institute of Painters in Water Colours.)
95. AVE MARIA. Lent by C. J. Wertheimer, Esq.
96. OFF GUARD. Lent by C. J. Galloway, Esq.
97. THE CARDINAL MINISTER. Lent by C. J. Galloway, Esq., jun.
- LUCAS, SEYMOUR**, 26, Cavendish Square, London.
(Member of the Institute of Painters in Water Colours.)
98. A LETTER TO PHILLIS. Lent by Major Barker.
- LUXMORE, A. C. E.**, 2A, Brondesbury Road, Kilburn, London.
99. I WILL AND BEQUEATH.
- MACBETH, JAMES**, 23, Newman Street, London.
100. SUNDAY EVENING, CHELSEA HOSPITAL GARDENS.
Lent by C. J. Galloway, Esq.
(See Oil Paintings.)
- MARKE, H. S.**, A.R.A., 15, Hamilton Terrace, St. John's Wood, London.
(Associate of the Society of Painters in Water Colours.)
101. THE PRINCESS AND THE PELICANS. Lent by W. Barges, Esq.
(See Oil Paintings.)
- MARSH, A. H.**, 8, St. Augustine's Road, Camden Road, London.
(Associate of the Society of Painters in Water Colours.)
102. THE MUSSEL GATHERER. Lent by Humphrey Roberts, Esq.
103. DRIFTWOOD. Lent by C. J. Galloway, Esq.

MOLE, J. E., 7, Guildford Place, Russell Square, London.

(*Member of the Institute of Painters in Water Colours.*)

104. IN YEWDAL. Lent by S. Bourne, Esq.

105. ST. MICHAEL'S MOUNT. Lent by G. Philip, Esq., junr.

MONTAGNA, Miss OLARA, 20, Stanley Crescent, Kensington Park Gardens, London.

(*Associate of the Society of Painters in Water Colours.*)

106. FISHING BOATS; VENICE. Lent by W. Muir, Esq.

107. A CORNER IN ST. MARK'S, VENICE.

WAPPEL, P. J., 4, St. Stephen's Square, Westbourne Park, London.

(*Associate of the Society of Painters in Water Colours.*)

108. ACROSS THE MOOR TO CIOCH-NA-OICH, FROM NORTH GLEN, SAUNOX, ISLE OF ARRAN, N.B.

109. TURCO STREAM, NEAR THE FALLS, KILLARNEY, IRELAND.

NEWTON, A. P., 44, Maddox Street, Regent Street, London.

(*Associate of the Society of Painters in Water Colours.*)

110. LEFT BY THE TIDE.

NORTH, J. W., 119, Charlotte Street, Fitzroy Square, London.

(*Associate of the Society of Painters in Water Colours.*)

111. THE PARSONAGE CROFT. Lent by R. H. Prance, Esq.

112. THE LAND OF ARGYLL. Lent by Lewis P. Jarvis, Esq.

113. THE WHITE HOUSE. Lent by Lewis P. Jarvis, Esq.
(*See Black and White.*)

ORROCK, J., 48, Bedford Square, London.

(*Member of the Institute of Painters in Water Colours.*)

114. LINCOLN MEADOWS. Lent by Richard Smith, Esq.

115. TOWYN MARSHES, NORTH WALES. Lent by G. B. Whitfield, Esq.

PARKER, J., 37, Grove Road, St. John's Wood, London.

(*Associate of the Society of Painters in Water Colours.*)

116. PHOEBE DAWSON. Lent by W. B. Waterlow, Esq.

PINWELL, G. J. (born 1842; died 1875).

(*Member of the Society of Painters in Water Colours.*)

117. THE PIED PIPER OF HAMELIN. Lent by E. Dalziel, Esq.

118. ST. JAMES'S PARK. Lent by E. Dalziel, Esq.

119. THE GREAT LADY. Lent by Wm. Austin, Esq.
(*See Black and White.*)

POYNTER, H. J., R.A., 11, Albert Terrace, Knightsbridge, London.

120. PORTRAIT OF MRS. LOUIS COURTAULD.

Lent by Louis Courtauld, Esq.

121. HARDBRAW SCAR, YORKSHIRE. (*See Oil Paintings.*)

READ, S., Parkside, Bromley, Kent.

(*Associate of the Society of Painters in Water Colours.*)

122. NOTRE DAME DE BROU-BOURG.

RICHARDSON, T. M., 12, Porchester Terrace, London.

(*Member of the Society of Painters in Water Colours.*)

123. VALLEY OF THE RHÔNE FROM THE FORCLAS, PASS OF THE
TÊTE NOIRE, SWITZERLAND.

Lent by A. Whitelaw, Esq., M.P.

ROBERTS, E. B., 14, Eton Villas, Haverstock Hill, London.

(*Member of the Institute of Painters in Water Colours.*)

124. DOCTORING OLD TIME. Lent by T. Nettlefold, Esq.

SCOTT, W. B., Bellevue, Battersea Bridge, London.

125. EVE.

SEVERN, ARTHUR, Herne Hill.

126. A RAY OF HOPE.

Lent by S. Pope, Esq., Q.C.

127. PORTRAIT OF MRS. SEVERN.

SKILL, F. J., 219, Maida Vale, London.

(*Member of the Institute of Painters in Water Colours.*)

128. VIEW ON THE TIBER. Lent by the Rev. T. F. Ravenshaw.

129. SAN LORENZO, GENOA. Lent by the Rev. T. F. Ravenshaw.

SMALL, W., 294, Camden Road, London.

(*Member of the Institute of Painters in Water Colours.*)

130. THE BIRCH TREE. Lent by C. E. Fry, Esq.

131. GOING TO MARKET, CONNEMARA. Lent by R. Hopkins, Esq.

132. POPLARS. Lent by A. Bell, Esq.
(*See Oil Paintings.*)

SMALLFIELD, F., 52, Boundary Road, St. John's Wood, London.

(*Associate of the Society of Painters in Water Colours.*)

133. THE WEEDING WOMEN'S HOUSE.

SMITH, COLLINGWOOD, Wyndham Lodge, Brixton.

(*Member of the Society of Painters in Water Colours.*)

134. MOUNT PILATUS, LUCERNE.

135. THE POPES' PALACE, AVIGNON.

STILLMAN, Mrs., The Shrubby, Clapham Common.

136. FIAMMETTA.

TAYLER, F., 38, Avenue Road, London.

(*Member of the Society of Painters in Water Colours.*)

137. THE GAMEKEEPER'S DAUGHTER. Lent by W. Gilbey, Esq.

138. WOODLAND HUNTING. Lent by W. Gilbey, Esq.

139. A CATTLE FERRY BOAT. Lent by W. Gilbey, Esq.

TOPEAN, F. W. (born 1809; died 1877).

(*Member of the Society of Painters in Water Colours.*)

140. VENETIAN WATER CARRIERS. Lent by A. D. Halford, Esq.

141. THE EVE OF THE FESTA. Lent by H. A. Brassey, Esq., M.P.

VACHER, C., 4, The Boltons, South Kensington, London.

(Member of the Institute of Painters in Water Colours.)

142. SUNRISE AT THEBES.

WALKER, F., A.R.A. (born 1840; died 1875).

(Member of the Society of Painters in Water Colours.)

143. THE FERRY. Lent by F. Lehmann, Esq.

144. THE FISHMONGER'S SHOP. Lent by F. Lehmann, Esq.

145. THE FARM GARDEN. Lent by F. Lehmann, Esq.

146. THE HOUSEWIFE. Lent by R. H. Prance, Esq.

147. THE VILLAGE. Lent by Miss Caroline Agnew.

148. THE CHAPLAIN'S DAUGHTER. Lent by Birket Foster, Esq.

149. "LET US DRINK TO THE HEALTH OF THE ABSENT,"
said Petit père solemnly; but Catherine gave a sudden
exclamation and put down her glass untouched; "Look,
ah, look," she cried, pointing through the window . . .
"Who was that standing there in a straw hat?"

150. THE HARBOUR OF REFUGE. Lent by S. Beaumont, Esq.

151. THE THREE FATES. Lent by George Smith, Esq.

152. THE VIOLET FIELD. Lent by A. D. Halford, Esq.
(See Oil Paintings, and Black and White.)

WALTON, F., Holmbury Hill, Dorking.

153. POOL BAY, BOURNEMOUTH.

WARREN, M. G., 1A, Phillimore Gardens, Kensington, London.

(Member of the Institute of Painters in Water Colours.)

154. BARDEN TOWER, WHARFEDALE.

155. EPPING FOREST, SUMMER TIME.

WATSON, J. D., 22, St. Edmund's Terrace, Regent's Park, London.

(Member of the Society of Painters in Water Colours.)

156. THE STOLEN MARRIAGE. Lent by Sir Henry James, M.P., Q.C.

157. BOOK LORE. Sent by T. Whalley, Esq.

158. THE TAILOR'S NEWS. Lent by Humphrey Roberts, Esq.
(See Oil Paintings.)

WEBER, OTTO, 20, Greville Road, St. John's Wood, London.

(Associate of the Society of Painters in Water Colours.)

159. THE THAMES AT STREATLEY. Lent by Baron von Schroeder.

WHAITE, H. CLARENCE, 16, Douro Place, Victoria Road, London.

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160. CAMBRIAN HEIGHTS. Lent by W. G. Ward, Esq.

161. SNOW IN HARVEST. Lent by C. J. Pooley, Esq.

WHYMPER, J. W., Haslemere, Surrey.

(Member of the Society of Painters in Water Colours.)

162. CHURCH AND LOCK, STRATFORD-ON-AVON.

Lent by T. Hepburn, Esq.

WILLIS, H. B., 12, Palace Gardens Terrace, Kensington, London.
(*Member of the Society of Painters in Water Colours.*)

163. CATTLE. Lent by Carl Haag, Esq.

WILSON, T. WALTER, 39, Beaufort Street, Chelsea, London.
(*Associate of the Institute of Painters in Water Colours.*)

164. GRANDFATHER'S DARLING. Lent by J. N. Mappin, Esq.

WOLF, J., The Avenue, 76, Fulham Road, London.
(*Member of the Institute of Painters in Water Colours.*)

165. A ROW IN THE JUNGLE. (*See Black and White.*)

DRAWINGS IN BLACK AND WHITE.

AUMONIER, J., 136, Camden Road, London.
(*Associate of the Institute of Painters in Water Colours.*)

166. EASTON BROAD, SUFFOLK.
(*See Oil Paintings and Water Colours.*)

GREEN, C., Charlecote, Hampstead Hill Gardens, London.
(*Member of the Institute of Painters in Water Colours.*)

167. ILLUSTRATIONS TO CHARLES DICKENS' "THE OLD CURIOSITY SHOP."
Lent by Messrs. Chapman and Hall

168. ILLUSTRATIONS TO CHARLES DICKENS' "THE OLD CURIOSITY SHOP."
Lent by Messrs. Chapman and Hall.
(*See Oil Paintings and Water Colours.*)

GREGORY, E. J., 6, Abercorn Place, St. John's Wood, London.
(*Member of the Institute of Painters in Water-Colours.*)

169. A VOTARY OF PALLAS. Lent by C. J. Galloway, Esq.
(*See Oil Paintings and Water Colours.*)

HOPKINS, A., 22, St. Ann's Villas, Notting Hill, London.
(*Associate of the Society of Painters in Water Colours.*)

170. "IN TOW." Lent by H. S. Marks, Esq., A.R.A.

171. "ENGAGED."
Lent by The Proprietors of the "Illustrated London News."
(*See Water Colours.*)

KEENE, CHARLES, 26, Golden Square, London.

172. SKETCHES FOR "PUNCH."

173. SKETCHES FOR "PUNCH."

KNIGHT, JOSEPH, Tyntwll, near Llanrwst, North Wales.

174. THE FERRY.

Lent by E. Crompton Potter, Esq.

175. AFTER SUNDOWN. (*See Oil Paintings and Water Colours.*)

MAURIER, GEORGE BUSSON DU, New Grove House, Hampstead, Middlesex.

176. VARIOUS DRAWINGS PUBLISHED IN "PUNCH."

177. VARIOUS DRAWINGS PUBLISHED IN "PUNCH."

178. VARIOUS DRAWINGS PUBLISHED IN "PUNCH."

NORTH, J. W., 119, Charlotte Street, Fitzroy Square, London.
(Associate of the Society of Painters in Water Colours.)

179. DRAWINGS ON WOOD; ENGLISH LANDSCAPES.

Lent by E. Dalsiel, Esq.
(See Water Colours.)

PINWELL, G. J. (born 1842; died 1875).

(Associate of the Society of Painters in Water Colours.)

180. DRAWINGS ON WOOD; RUSTIC SUBJECTS.

Lent by E. Dalsiel, Esq.
(See Water Colours.)

SAMBOURNE, LINLEY, 18, Stafford Terrace, Kensington, London.

181. "BIRDS OF A FEATHER," PUBLISHED IN "PUNCH."

182. ROYAL ACADEMY DRAWING FOR 1877.

183. DRAWINGS FOR "PUNCH."

TENNIEL, JOHN, 10, Portsdown Road, London.

(Member of the Institute of Painters in Water Colours.)

184. "BEFORE THE TOURNAMENT," CARTOON FOR "PUNCH."

Lent by Mrs. T. Agnew.

185. "IN THE MÊLÉE," CARTOON FOR "PUNCH."

Lent by Mrs. T. Agnew.

WALKER, F., A.R.A. (born 1840; died 1875).

(Member of the Society of Painters in Water Colours.)

186. BATHERS; DRAWING ON WOOD.

Lent by E. Dalsiel, Esq.

187. THE DAME'S SCHOOL.

Lent by E. Dalsiel, Esq.

188. THE NOSEGAY.

Lent by E. Dalsiel, Esq.
(See Oil Paintings and Water Colours.)

WOLF, J., The Avenue, 76, Fulham Road, London.

(Member of the Institute of Painters in Water Colours.)

189. "AGE."

190. "SNOWSTORM IN THE ALPS."

191. A COMBAT.

(See Water Colours.)

CLASS 3.

SCULPTURE.

ADAMS, G. C., 126, Sloane Street, London.

1. MEDALS.

ADAMS-ACTON, J., Margutta House, Marylebone Road, London.

2. ZENOBI.

3. LADY VICTORIA CAMPBELL.

SIRCH, C. B., 21a, Great College Street, Westminster, London.

4. A WOOD NYMPH. Lent by E. Hornsby, Esq.

SKELM, J. E., A.R.A., The Avenue, 76, Fulham Road, London.

5. A CLYDESDALE STALLION REARING.

6. THOMAS CARLYLE.

7. J. A. M. WHISTLER.

SPODIE, W., R.S.A., St. Helen's, Cambridge Street, Edinburgh.

8. HER MAJESTY QUEEN VICTORIA.

9. THE RIGHT HON. BARONESS BURDETT COUTTS.

D'EPINAY, Rome.

10. HER ROYAL HIGHNESS THE PRINCESS OF WALES.

11. MISS FLORENCE HAMILTON. Lent by M. H. Say.

12. MADAME D'EPINAY. Lent by Madame Mottel de la Fontaine.

FOLEY, J. H., R.A. (born 1818; died 1874).

13. EDMUND BURKE.

14. OLIVER GOLDSMITH.

15. A PARSEE MERCHANT.

16. HENRY GRATTAN.

17. LORD CLYDE.

18. PROFESSOR FARADAY.

19. CARACTACUS. Lent by the Art Union of London.

Lent by the Executors of the late
J. H. Foley, Esq., R.A.

FONTANA, G., 25, Glebe Place, Chelsea, London.

20. CUPID CAPTURED BY VENUS.

FULLER, CHARLES FRANCIS (died 1875).

21. THE CASTAWAY.

22. THE PERI.

GLEICHEN, H.S.H. COUNT, St. James' Palace, London.

23. KING ALFRED THE GREAT.

24. GARIBALDI.

25. A BACCHANTE.

GOWER, LORD RONALD.

26. "LA GARDE MEURT ET NE SE REND PAS."

GRANT, Miss MARY, Ebenezer House, Gloucester Gate, Regent's Park, London.

27. ST. MARGARET AND THE DRAGON.

"Then she was dragged to a dungeon, where Satan, in the form of a terrible dragon, came upon her with his inflamed and hideous mouth open, and sought to terrify and confound her; but she held up the cross of the Redeemer, and he fled before it"—

(Incident in the Life of St. Margaret of Antioch.)

28. SIR FRANCIS GRANT, P.R.A.

Lent by the Royal Academy of Arts.

29. LADY AUGUSTA STANLEY.**JOY, A. BRUCE**, 16, Pembridge Gardens, Bayswater, London.**30. FORSAKEN.****31. PROFESSOR MAX MÜLLER.****JUNCE, F.**, 32, Grove Road, St. John's Wood, London.**32. RELAXATION.**

Lent by W. L. Christie, Esq., M.P.

LEIGHTON, F., R.A., 2, Holland Park Road, London.**33. ATHLETIC WRESTLING WITH A PYTHON.**Lent by the Council of the Royal Academy of Arts.
(See Oil Paintings.)**LAWLOR, MICHAEL**, 193, Ladbroke Grove Road, London.**34. STATUETTE.****35. STATUETTE.****McLELLAN, T. W.**, 141, Church Street, Chelsea, London.**36. "IONE."**

Lent by A. M. Marsden, Esq.

MARSHALL, WM. CALDER, R.A., 115, Ebury Street, London.**37. TALI PLAYERS.****38. NAUSICAA.****SIMONDS, GEORGE**, 152, Buckingham Palace Road, London.**39. CUPID TAMING A PANTHER.**

Lent by P. Allan Fraser, Esq.

40. EROS.**STEPHENS, H. B.**, A.R.A., 110, Buckingham Palace Road, London.**41. THE BATHERS.****42. THE WRESTLER.****STEVENS, A.** (died in 1875).**43. CARIATID FIGURE ; PLASTER MODEL FOR MARBLE CHIMNEY
PIECE AT DORCHESTER HOUSE, LONDON.**

Lent by J. Gamble, Esq.

**44. CARIATID FIGURE ; PLASTER MODEL FOR MARBLE CHIMNEY
PIECE AT DORCHESTER HOUSE, LONDON.**

Lent by J. Gamble, Esq.

TINWORTH, G., Lambeth Potteries, London.**45. THE DESCENT FROM THE CROSS.****WATTS, G. F., R.A.**, Little Holland House, Kensington, London.**46. CLYTIE.** Lent by the Right Honourable W. F. Cowper-Temple, M.P.

(See Oil Paintings.)

CLASS 4.

ARCHITECTURAL DRAWINGS AND MODELS.

ATTCHISON, GEORGE, B.A., F.R.I.B.A., 150, Harley Street, London.

1. DECORATION OF DRAWING AND DINING ROOMS AT KENSINGTON PALACE.

Executed for HER ROYAL HIGHNESS PRINCESS LOUISE.

- | | | |
|------------------------------------------------------------|---|--------------------------------------------------------------------------------|
| 2. DECORATION OF LARGE DRAWING ROOM. | { | <i>Executed for T. E. SMITH, Esq., M.P., 52, Princes Gate, London.</i> |
| 3. DECORATION OF BOUDOIR. | | |
| 4. DECORATION OF INNER HALL. | { | <i>Executed for THE HON. PERCY WYNDHAM, M.P., 44, Belgrave Square, London.</i> |
| 5. DECORATION OF STAIRCASE. | | |
| 6. DECORATION OF DRAWING ROOM. | { | <i>Executed for F. LEHMANN, Esq., 15, Berkeley Square, London.</i> |
| 7. DECORATION OF BOUDOIR. | | |
| 8. DECORATION OF GREEN DRAWING ROOM. | | |
| 9. BOARD ROOM, THAMES CONSERVANCY, TRINITY SQUARE, LONDON. | | |

BARRY, CHARLES, F.S.A., F.R.I.B.A., 1, Westminster Chambers, Victoria Street, London.

(President of the Royal Institute of British Architects.)

10. ALLEYN'S COLLEGE, DULWICH; GENERAL VIEW.
11. ALLEYN'S COLLEGE, DULWICH; INTERIOR OF GREAT HALL.
12. ALLEYN'S COLLEGE, DULWICH; VARIOUS INTERNAL AND EXTERNAL FEATURES.
13. BURLINGTON HOUSE, LONDON; NEW BUILDINGS FOR THE LEARNED AND SCIENTIFIC SOCIETIES OF ENGLAND.
14. STEVENSTONE HOUSE, NORTH DEVON, AS ALTERED AND ENLARGED; THE RESIDENCE OF THE HON. MARK ROLLE.

BARRY, E. M., B.A., F.R.I.B.A., 21, Abingdon Street, London.

15. NEW NATIONAL GALLERY, LONDON; PARTLY ERRECTED.
16. NEW NATIONAL GALLERY, LONDON; INTERIOR.
17. HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET, LONDON.
18. HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET, LONDON; INTERIOR OF CHAPEL.
19. CREWE HALL, CHESHIRE; REBUILT AND ENLARGED.
20. CREWE HALL, CHESHIRE; INTERIOR OF HALL.
21. CREWE HALL, CHESHIRE; STAIRCASE.
22. CREWE HALL, CHESHIRE; PHOTOGRAPHS.
23. WYKEHURST, SUSSEX; GARDEN FRONT.

- BATTERBURY AND HUXLEY, MESSRS.**, 25, Great James Street, Bedford Row, London.
24. HOUSE WITH STUDIO ERECTED AT HAVERSTOCK HILL FOR JAMES D. LINTON, ESQ.
- BICKERDIE, ALFRED**, 10, Adam Street, Strand, London.
25. APSE OF CHRIST CHURCH, WESTMINSTER BRIDGE ROAD.
- BOULNOIS, W. A.**, F.R.I.B.A., 27, Regent Street, London.
26. VILLA ON THE LAGO MAGGIORE AT BAVENO.
- BROOKS, JAMES**, F.R.I.B.A., 35, Wellington Street, Strand, London.
27. CHURCH OF SAINT MARY-AT-YE CROSS, SHOREDITCH.
28. CHURCH OF SAINT CHAD, HAGGERSTONE; SIDE CHAPEL AND PLAN.
29. SCHOOLS OF SAINT MICHAEL WITH CONVENT OF SAINT MARY-AT-YE CROSS, SHOREDITCH.
30. CHURCH OF ST. JOHN BAPTIST, KENSINGTON.
31. CHURCH OF THE ANNUNCIATION, CHISLEHURST, KENT.
- BURGESS, WILLIAM**, F.R.I.B.A., 15, Buckingham Street, Strand, London.
32. CLOCK TOWER AT CARDIFF CASTLE; ERECTED FOR THE MARQUIS OF BUTE.
33. BISHOP'S THRONE, CORK CATHEDRAL.
34. CHANCEL OF ST. MARY THE VIRGIN, STUDLEY ROYAL, YORKSHIRE.
- CARPENTER, R. H.**, F.R.I.B.A., **AND INGELOW, B.**, 4, Regent Street, London.
35. CHAPEL OF ST. MARY AND ST. NICHOLAS IN COURSE OF ERECTION AT LANCING COLLEGE, SUSSEX.
- CHAMPNEYS, BASIL**, 39, Great Marlborough Street, London.
36. VILLAGE CHURCH AT MAYFIELD, KENT.
37. CHURCH OF ST. PETER-LE-BAILEY, OXFORD.
38. NEW DIVINITY SCHOOLS, CAMBRIDGE.
- CHRISTIAN, B.**, F.R.I.B.A., 8a, Whitehall Place, London.
39. ST MARK'S CHURCH, LEICESTER; INTERIOR VIEW, LOOKING EAST.
40. MAYFIELD; NEW LIBRARY WING ERECTING FOR THE RT. HON. LORD PENZANCE.
41. ST. PETER'S CHURCH, WOLVERHAMPTON; NORTH-EAST VIEW, AS RESTORED.
42. LOUGHRIGG BROW, AMBLESIDE, WESTMORELAND.
- CLARKE, G. SOMERS**, F.R.I.B.A., 20, Cockspur Street, London.
43. WYFOLD COURT, OXFORDSHIRE; MANSION ERECTED FOR E. HERMON, ESQ., M.P. WEST VIEW.
44. WYFOLD COURT, OXFORDSHIRE; MANSION ERECTED FOR E. HERMON, ESQ., M.P. SOUTH-WEST VIEW.

45. WYFOLD COURT, OXFORDSHIRE; MANSION ERECTED FOR E. HERMON, ESQ., M.P. NORTH-EAST VIEW.

CLARKE, SOMERS, JUNIOR, 6, Delahaye Street, London.

46. INTERIOR VIEW OF ST. MARTIN'S CHURCH, BRIGHTON.

CLARKE, T. C., F.R.I.B.A., 63, Bishopsgate Street Within, London.

47. LONDON OFFICES OF THE ROYAL BANK OF SCOTLAND, BISHOPSGATE STREET WITHIN.

COCKERELL, F. P., F.R.I.B.A., 18, Manchester Square, London.

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|-----|---|---------------------------------|------------------------------------------------------------------|
| 48. | { | CRAWLEY COURT, WINCHESTER. | } Photographic views of buildings erected from his designs. |
| | | Do. Do. Do. | |
| | | DOWN HALL, ESSEX. | |
| | | BORROWSLEA, SURREY. | |
| | | Do. Do. | |
| 49. | { | FREEMASONS' HALL, LONDON. | |
| | | LYTHE HILL, SURREY. | |
| | | Do. Do. | |
| | | DYNHAVEN. | |
| | | WATER COLOUR GALLERY. | |
| | { | TOMB AT ALGIERS. | } Photographic views of buildings, &c. erected from his designs. |
| | | TOMB AT KENSAL GREEN. | |
| | | MONUMENT IN ST. PAUL'S. | |
| | | MEMORIAL COLUMN AT YORK. | |
| | | CAP OF MEMORIAL COLUMN AT YORK. | |
| | | MEMORIAL COLUMN AT SLOUGH. | |
| | | CHIMNEY-PIECE AT CLIFDEN. | |
| | | TOMB AT STANMORE. | |

COOKE, CHARLES H., F.R.I.B.A., Burlington Chambers, 180, New Bond Street, London.

50. NEW CHURCH OF ST. JOHN BAPTIST, PLUMSTEAD, KENT.

CURREY, HENRY, F.R.I.B.A., 37, Norfolk Street, Strand, London.

51. ST. THOMAS'S HOSPITAL, LONDON; FRONT TO THE RIVER THAMES.

52. ST. THOMAS'S HOSPITAL, LONDON; FRONT TO THE PALACE ROAD.

CURLON, HENRY, A.R.I.B.A., 61, Lincoln's Inn Fields, London.

53. CHURCH OF ST. MICHAEL, WOOD GREEN, MIDDLESEX.

54. HOLKER STREET BOARD SCHOOLS, BARROW-IN-FURNESS.

EDIS, R. W., F.S.A., F.R.I.B.A., 14, Fitzroy Square, London.

55. RESTORATION AND ADDITIONS TO BUCKDEN PLACE, HUNTINGDON.

56. NEW MANSION NEAR RINGWOOD, HAMPSHIRE.

57. BOSCOMBE SPA NEW HOTEL, BOURNEMOUTH.

58. SHOP AND PREMISES, NEW BOND STREET, LONDON.

EMERSON, WILLIAM, F.R.I.B.A., 1, Westminster Chambers, Victoria Street, London.

59. VIEW OF MUIR COLLEGE, ALLAHABAD UNIVERSITY, INDIA.

60. QUADRANGLE AND TOWER OF MUIR COLLEGE, ALLAHABAD UNIVERSITY, INDIA.

61. ST. MARY'S CHURCH, BRIGHTON, INTERIOR VIEW.

62. FOUNTAIN IN THE MARKET, BOMBAY, INDIA.

FERRY, BENJAMIN, F.S.A., 15, Spring Gardens, London.
Vice-President of the Royal Institute of British Architects.

63. WYNNSTAY, NEAR RUABON, NORTH WALES, THE SEAT OF SIR WATKIN W. WYNN, BART., M.P.

FERGUSSON, JAMES, F.R.I.B.A., 20, Langham Place, London.

64. RESTORATION OF THE PALACE OF CHOSROES AT MESHITA IN MOAB.

GEORGE, ERNEST, A.R.I.B.A., **AND PETO**, 11, Argyll Street, London.

65. ROUSDEN, DEVONSHIRE; ERECTED FOR SIR H. W. PEEK, BART., M.P.

66. PREMISES IN SOUTH AUDLEY STREET, LONDON; ERECTED FOR MESSRS. GOODE AND CO.

67. COTTAGES ON CHISLEHURST COMMON; ERECTED FOR C. MORLEY, ESQ.

GIBSON, JOHN, F.R.I.B.A., 13, Great Queen Street, London.

68. NATIONAL PROVINCIAL BANK OF ENGLAND AT SUNDERLAND.

69. NATIONAL PROVINCIAL BANK OF ENGLAND AT NEWCASTLE-ON-TYNE.

70. SALOON AND STAIRCASE AT DOBROYD CASTLE, NEAR TODMORDEN, LANCASHIRE.

71. SUNDRY BANKS, AND OTHER BUILDINGS.

GODWIN, EDWARD, W., F.S.A., 8, Victoria Chambers, Westminster, London.

72. HOUSES ON THE THAMES EMBANKMENT, CHELSEA.

73. DROMORE CASTLE, COUNTY LIMERICK, SEAT OF THE RIGHT HON. EARL OF LIMERICK.

74. SMALL HOUSE AT NORTHAMPTON.

GOODMAN, THOS., Southend, Essex.

75. INTERIOR VIEW OF THE OLD PORCH OF CHURCH AT SOUTH BENFLEET, ESSEX.

HANSON, JOSEPH, AND SON, Broadway Chambers, Westminster, London.

76. EXTERIOR OF ST. PHILIP'S CHURCH, ARUNDEL; ERECTED FOR HIS GRACE THE DUKE OF NORFOLK.

77. INTERIOR OF ST. PHILIP'S CHURCH, ARUNDEL; ERECTED FOR HIS GRACE THE DUKE OF NORFOLK.
78. INTERIOR OF THE CHURCH OF THE HOLY NAME, MANCHESTER; ERECTED FOR THE SOCIETY OF JESUS.
79. EXTERIOR OF THE CHURCH OF THE HOLY NAME, MANCHESTER; ERECTED FOR THE SOCIETY OF JESUS.

KAYWARD, CHARLES FOSTER, F.S.A., F.R.I.B.A., 20, Montagu Street, Russell Square, London.

80. NATURAL SCIENCE SCHOOLS, HARROW, PERSPECTIVE VIEW OF ENTRANCE FRONT.
81. NATURAL SCIENCE SCHOOLS, HARROW, GARDEN VIEW.

KENMAN, CHARLES, A.R.I.B.A., AND **WILLIAM HARRISON**, 9, Bedford Row, London.

82. BOARD SCHOOL (FOR 390 CHILDREN) AT SOUTHWICK, SUSSEX.
- KENMAN, CHARLES**, A.R.I.B.A., **WILLIAM HARRISON**, AND **EDMUND T. PERROTT**, 9, Bedford Row, London.

83. COTTAGE HOSPITAL, WALSALL, STAFFORDSHIRE.

HILL, A., A.R.I.B.A., George Street, Cork.

84. SECTION THROUGH ROUND PART OF THE TEMPLE CHURCH, LONDON.

TANSON, EDWARD, F.R.I.A.B., 7a, Lawrence Pountney Hill, London.

85. EXTERNAL VIEW OF SCHOOLS ERECTED ON THE SITE OF THE CHARTERHOUSE SCHOOL BY THE WORSHIPFUL COMPANY OF MERCHANT TAYLORS.

86. ENTRANCE HALL OF THE BUILDINGS OF THE BRITISH AND FOREIGN BIBLE SOCIETY, QUEEN VICTORIA STREET, LONDON.

87. SOUTH FRONT OF THE BUILDINGS OF THE BRITISH AND FOREIGN BIBLE SOCIETY, QUEEN VICTORIA STREET, LONDON.

JACKSON, THOMAS GRAHAM, Devereux Chambers, Temple, London.

88. NEW EXAMINATION SCHOOLS FOR THE UNIVERSITY OF OXFORD; VIEW IN HIGH STREET.
89. NEW EXAMINATION SCHOOLS FOR THE UNIVERSITY OF OXFORD; VIEW OF QUADRANGLE.

JARVIS, H. AND SON, 29, Trinity Square, London.

90. CHURCH OF ST. AUGUSTINE, BERMONDSEY, INTERIOR, LOOKING WEST.
91. CHURCH OF ST. AUGUSTINE, BERMONDSEY; INTERIOR OF CHANCEL.

JONES, MORRIS, F.R.I.B.A., Guildhall, London.

92. THE LONDON CENTRAL MEAT MARKET.
93. THE LONDON CENTRAL POULTRY AND PROVISION MARKET.
94. BILLINGSGATE FISH MARKET, LONDON.
95. THE GUILDHALL LIBRARY, LONDON.

MAY, EDWARD JOHN, 155, Grove Lane, Denmark Hill, London.

96. FORD'S HOSPITAL, COVENTRY, ERECTED 1529, ELEVATION.

97. Do. Do. Do. Do. DETAILS.

MICKLETHWAITE, J. T., 6, Delahaye Street, London.

98. INTERIOR OF ST. HILDA'S PARISH CHURCH, LEEDS.

NORTON, J., F.R.I.B.A., **AND P. M. MASEY**, A.R.I.A.B.,
24, Old Bond Street, London.

99. AQUARIUM AT GREAT YARMOUTH, NORFOLK.

100. AQUARIUM AT TYNEMOUTH, NORTHUMBERLAND.

PALEY, L. G., F.R.I.B.A., **AND AUSTIN**, Lancaster.

101. CHURCH OF ST. MATTHEW AND ST. JAMES, MOSSLEY HILL,
LIVERPOOL.

102. CHURCH OF ST. MATTHEW AND ST. JAMES, MOSSLEY HILL,
LIVERPOOL. Photographs.

103. CHURCH OF ST. MATTHEW AND ST. JAMES, MOSSLEY HILL,
LIVERPOOL.

PEARSON, JOHN L., A.R.A., F.S.A., F.R.I.B.A., 46, Harley
Street, London.

104. ST. AUGUSTINE'S, KILBURN; INTERIOR LOOKING EAST.

105. Do. Do. EXTERIOR VIEW FROM THE
SOUTH EAST.

106. Do. Do. ELEVATION OF THE REERDOS.

107. SUTTON VENY CHURCH, WILTSHIRE; INTERIOR VIEW.

108. CHAPEL OF ST. PETER'S HOME, KILBURN; INTERIOR VIEW.

109. WENTWORTH CHURCH, YORKSHIRE; VIEW FROM THE NORTH
EAST.

110. TOWER AND SPIRE, ST. PETER'S, VAUXHALL, LONDON.

111. SCULPTURE AND INCISED DECORATION OF ST. PETER'S
VAUXHALL, LONDON.

112. TOWER AND SPIRE, DALTON HOLME CHURCH, YORKSHIRE.

PENROSE, FRANCIS CRAWMER, M.A., F.R.I.B.A., 68, St.
Paul's Churchyard, London.

113. A PERSPECTIVE VIEW OF THE ACROPOLIS OF ATHENS, AS
IT MAY HAVE APPEARED DURING THE XIV. CENTURY.

PLUMBE, ROWLAND, F.R.I.B.A., 13, Fitzroy Square, London.

114. EXTERIOR VIEW OF HOUSE NOW ERECTING FOR WILBER-
FORCE BRYANT, ESQ., AT SURBITON, SURREY.

115. INTERIOR OF CONGREGATIONAL CHURCH ERECTED AT WOOD-
FORD, ESSEX.

116. VIEW OF WAREHOUSES ERECTED IN THAMES ST., GREEN-
HITHE.

117. BUSINESS PREMISES ERECTED IN RAY ST., CLERKENWELL.

ST. AUBYN, J. P., F.R.I.B.A., Temple, London.

- 118. NEW BUILDINGS, ST. MICHAEL'S MOUNT, CORNWALL.
- 119. ELEVATION, ETC. OF HALL SCREEN, MIDDLE TEMPLE, LONDON.

SCOTT, THE LATE SIR GEORGE GILBERT, R.A., F.S.A. F.R.I.B.A. (Died in 1878.)

- 120. EXTERNAL VIEW OF THE NEW CATHEDRAL CHURCH OF ST. MARY, EDINBURGH.
- 121. INTERNAL VIEW OF THE NEW CATHEDRAL CHURCH OF ST. MARY, EDINBURGH.

SCOTT, JOHN OLDRID, 31, Spring Gardens, London.

- 122. ST. PAUL'S CHURCH, MANCHESTER; EXTERIOR VIEW.
- 123. EXTERIOR OF SLOUGH PARISH CHURCH, BUCKS.

SEDDON, JOHN P., F.R.I.B.A., 1, Queen Anne's Gate S.W.

- 124. CHANCEL SCREEN, INGHAM CHURCH, NORFOLK.
- 125. INTERIOR DECORATION OF CHAPEL OF ST. PETER'S ORPHANAGE, ISLE OF THANET.

SEWARD, JAMES & THOMAS, St. John's Chambers, Cardiff.

- 126. PERSPECTIVE VIEW OF THE NEW MUNICIPAL BUILDINGS NOW BEING ERECTED AT CARDIFF.

SHARPE, THE LATE EDMUND, care of Messrs. Paley & Austin, Lancaster.

- 127. ORNAMENTATION OF TRANSITIONAL PERIOD OF ENGLISH ARCHITECTURE.
- 128. WEST DOORWAY, CORNELIA CHURCH, PYRMNEES ORIENTALES, FRANCE.

SHAW, RICHD. NORMAN, R.A., 30, Argyll Street, London.

- 129. ICKLEY CHURCH.
- 130. PIERREPOINT.
- 131. VIEW OF WISPERS, NEAR MIDHURST, SUSSEX.

SPIERS, R. PRINCE, F.R.I.B.A., 12, Regent Street, London.

- 132. MEMORIAL TOWER TO MRS. LOCKE, LOCKE PARK, BARNSLEY.
- 133. MANSION AT IMPNEY, NEAR DROITWICH; PRINCIPAL FRONT (MR. A. TRONQUOIS AND MR. R. P. SPIERS, JOINT ARCHITECTS).

STEWART, ISAAC, 22, Little Park Street, Coventry.

- 134. RESTORATION OF OLD COVENTRY CROSS, SHOWING A NEW STREET OPENED UP TO THE CHURCH OF ST. MICHAEL.

STEVENSON, JOHN J., The Red House, Bayswater Hill, London.

- 135. RED BRICK HOUSES IN CADOGAN SQUARE, LONDON.

- STREET, GEORGE EDMUND, R.A., F.S.A., F.R.I.B.A., 14,**
Cavendish Place, London.
(*Vice-President of the Royal Institute of British Architects.*)
136. PLAN, ELEVATION, AND SECTION OF THE NEW CATHEDRAL
OF CHRIST CHURCH, DUBLIN.
137. PLANS AND ELEVATION OF A NEW NAVE FOR BRISTOL
CATHEDRAL.
138. BIRD'S EYE VIEW OF THE NEW PALACE OF JUSTICE,
LONDON.
139. NORTH VIEW OF BRISTOL CATHEDRAL.
- SULMAN, JOHN, A.R.I.B.A., 16, Furnival's Inn, London.**
140. VIEW OF A HOUSE AT DORKING, SURREY.
141. CONGREGATIONAL CHURCH AT BECKENHAM, KENT.
- TALBERT, B. J., 5, Euston Square, London.**
142. AN ENTRESOL; WATER COLOUR DRAWING.
143. SCREEN DECORATION AND FURNITURE.
- TARRING, F. W., F.R.I.B.A., AND WILKINSON, 69, Basing-
hall Street, London.**
144. CONGREGATIONAL CHURCH AT ENFIELD, MIDDLESEX.
145. CONGREGATIONAL CHURCH AT BLACKBURN, LANCASHIRE.
146. STUDIOS AND SHOW ROOMS FOR MESSRS. DOULTON, LAMBETH.
- TREVAIL, SYLVANUS, Tywardreath, Par, Cornwall.**
147. FOWEY BOARD SCHOOLS, CORNWALL.
148. ST. IVES' BOARD SCHOOLS, CORNWALL.
149. OXFORD STREET BOARD SCHOOLS, PLYMOUTH.
- WATERHOUSE, ALFRED, A.R.A., F.R.I.B.A., 20, New
Cavendish Street, London.**
150. THE CLOCK TOWER OF THE NEW TOWN HALL, MANCHESTER.
151. THE NEW NATURAL HISTORY MUSEUM, SOUTH KENSINGTON,
LONDON.
152. THE PRIVATE CHAPEL AT EATON HALL, CHESHIRE, SEAT OF
HIS GRACE THE DUKE OF WESTMINSTER.
- WATSON, THOS. HENRY, F.R.I.B.A., 9, Nottingham Place,
London.**
153. CLIFFORD CHAMBERS, NEW BOND STREET.
154. CHURCH OF ST. MARY, LOUGHTON.
- WHEE, ASTON, A.R.I.B.A., 3, Duke Street, Adelphi, London.**
155. NEW ALMSHOUSES, WORCESTER.
156. NEW CHURCH AT PENYCAE, NEAR RUABON, NORTH WALES.
- WHIGHCOOD, JOHN, F.S.A., 11, Queen Victoria Street, London.**
(*Vice-President of the Royal Institute of British Architects.*)
157. THE NATIONAL SAFE DEPOSIT COMPANY'S PREMISES, 1,
QUEEN VICTORIA STREET, LONDON.
158. ST. STEPHEN'S CLUB, WESTMINSTER.

WHITE, WILLIAM, F.S.A., F.R.I.B.A., 30a, Wimpole Street, London.

159. ST. PETER'S CHURCH, BATTERSEA.

160. ST. MARK'S CHURCH, BATTERSEA RISE.

WORTHINGTON, T., F.R.I.B.A., 110, King Street, Manchester.

161. MANCHESTER CITY POLICE AND SESSIONS COURT; VIEW IN MINSHULL STREET.

162. MANCHESTER CITY POLICE AND SESSIONS COURT; VIEW IN BLOOM STREET.

163. MANCHESTER CITY POLICE AND SESSIONS COURT; PRINCIPAL ELEVATION OF THE MINSHULL STREET FAÇADE.

164. MANCHESTER MEMORIAL TO THE LATE PRINCE CONSOBT.

165. MANSION AT DIDSBUY, NEAR MANCHESTER; GARDEN FRONT.

166. MANSION AT DIDSBUY, NEAR MANCHESTER; THE ENTRANCE FRONT.

167. PHOTOGRAPHS OF CHURCHES AND BUILDINGS ERECTED IN MANCHESTER AND ITS VICINITY DURING THE YEARS 1869-1875.

WYATT, THOMAS H., F.S.A., F.R.I.B.A., 77, Great Russell Street, London.

168. LIVERPOOL EXCHANGE; VIEW OF THE QUADRANGLE.

169. MANSION AT BROCKENHURST, HANTS; BUILT FOR JOHN MORANT, ESQ.

170. MANSION ERECTED IN PARK LANE, LONDON, FOR SIR DUDLEY COUTTS MARJORIBANKS, BART.

YOUNG, WILLIAM, 14 and 15, Exeter Hall, London.

171. COUNTRY RESIDENCE ERECTED AT HOLMEWOOD, HUNTINGDONSHIRE.

CLASS 5.

ENGRAVINGS ON STEEL AND ON WOOD; ETCHINGS.

ATKINSON, T. L., 6, Brunswick Villas, Hill Road, St. John's Wood, London.

1. "STELLA." Engraved after J. E. MILLAIS, R.A.

2. "VANESSA." Engraved after J. E. MILLAIS, R.A.

3. "THE HOLY FAMILY." Engraved after F. GOODALL, R.A.

BARLOW, T. O., A.R.A., 38A, Victoria Road, Kensington, London.

4. THE DUKE OF WESTMINSTER. After J. E. MILLAIS, R.A.

5. SIR STERNDALÉ BENNETT. After J. E. MILLAIS, R.A.

6. LITTLE STROLLERS. After SIR EDWIN LANDSEER, R.A.

BRADLEY, J. H., 26, Viale Principe Eugenio, Florence.

7. FONDAMENTA DI PONTE LUIGIO, VENICE. Etching.
8. PONTE PANADA, VENICE. Etching.
9. WARWICKSHIRE WILLOWS. Etching.

DALZIEL, MESSRS., BROTHERS, 110, High Street, Camden Town, London.

10. Proofs from wood engravings. Subjects from the works of C. DICKENS, drawn by F. BARNARD.
11. Proofs from wood engravings. Subjects from BUNYAN'S "PIGGRIM'S PROGRESS," drawn by E. G. DALZIEL.
12. Proofs from wood engravings. Subjects from C. DICKENS' "THE UNCOMMERCIAL TRAVELLER," drawn by E. G. DALZIEL.

DOO, G. T., R.A., 4, Chancellor Road, West Dulwich.

13. PORTRAIT OF SIR THOMAS LAWRENCE, President of the Royal Academy of Arts. Engraved after SIR THOMAS LAWRENCE.
14. PORTRAIT OF SIR CHARLES EASTLAKE, President of the Royal Academy of Arts. Engraved after J. P. KNIGHT, R.A.
15. PORTRAIT OF JAMES JOHNSTONE, M.D., Birmingham. Engraved after W. T. RODEN.

EDWARDS, EDWIN, 26, Golden Square, London.

16. LONDON FROM THE TOP OF THE LONDON OBSERVATORY. "Fumum et opes strepitumque."
17. BRIDGE BUILDING AT BLACKFRIARS.

EVERSHED, A., 10, Mansfield Villas, Hampstead, Middlesex.

18. ON THE THAMES. (Etchings.)
19. DRY POINTS.

FABD, JAMES, 7, Barnton Terrace, Edinburgh.

20. PORTRAIT OF THE LATE CAPTAIN DINGWALL FORDYCE. Engraved after SIR DANIEL MACNEE, P.R.S.A.
21. PORTRAIT OF A LADY. Engraved after SIR DANIEL MACNEE, P.R.S.A.

HADEN, SHYMOUR, 88, Hertford Street, Mayfair, London.

22. CALAIS PIER, after TURNER (etching in progress for mezzotinting).
23. BREAKING UP OF THE "AGAMEMNON," 1870. (Etching.)

HERRKIMER, HUBERT, Dyreham, Bushey, Herts.

(Member of the Institute of Painters in Water Colours.)

24. SOUVENIR OF REMBRANDT. (Etching.)
25. A WELSH WOMAN. (Etching.)
(See Oil Paintings and Water Colours.)

KESSELTUPE, J. P., 196, Queen's Gate, London.

- 26. { GREAT YARMOUTH.
- { HAMBLETON, SURREY.
- { BRANSCOMBE, DEVON.
- 27. { GAINSBOROUGH LANE, IPSWICH.
- { NEAR RAMSGATE.
- { RAMSGATE HARBOUR.

KOOPER, W. H., 28, Fleet Street, London.

- 28. PROOFS FROM WOOD ENGRAVINGS.
- 29. PROOFS FROM WOOD ENGRAVINGS, BOOK PLATES, &c.

MACNITE, R. W., 6, The Mall, Park Road, Haverstock Hill, London.

(Associate of the Society of Painters in Water Colours.)

- 30. A LINCOLNSHIRE GANG.
- 31. POTATOE HARVEST IN THE FENS.
- 32. "CA, THE YOWES TO THE KNOWES." *(See Oil Paintings.)*

PALMER, S., Furze Hill House, Mead Vale, Red Hill, Surrey.

(Member of the Society of Painters in Water Colours.)

- 33. THE MORNING OF LIFE.
- 34. THE EARLY PLOUGHMAN.

RICHENTON, L., 39, Pembroke Square, London.

- 35. PORTRAIT OF RICHARD WAGNER.
- 36. WILLIAM III. WHEN A BOY, after REMBRANDT.

STACPOOLE, F., 23, Vale Place, West Kensington, London.

- 37. THE ROLL CALL. Engraved after MRS. BUTLER (Miss ELIZABETH THOMPSON).
- 38. THE PALM OFFERING. Engraved after F. GOODALL, R.A.
- 39. CECIL AND THE FRIENDS OF ULYSSES. Engraved after BRITON RIVIÈRE, A.R.A.

SWAIN, JOSEPH, 6, Bouverie Street, Strand, London.

- 40. PROOFS FROM WOODCUTS FOR BOOKS AND MAGAZINES.
(From drawings by various artists.)
- 41. PROOFS FROM WOODCUTS. *(From drawings by W. SMALL.)*
- 42. PROOFS FROM WOODCUTS, FOR "PUNCH."

SECOND GROUP.

EDUCATION AND INSTRUCTION, APPARATUS AND PROCESSES OF THE LIBERAL ARTS.

CLASS 6.—EDUCATION OF CHILDREN, PRIMARY INSTRUCTION, INSTRUCTION OF ADULTS.

Plans and models of day nurseries (*crèches*), orphan asylums, infant schools and *kinder-gärten*; system of management and furniture of such establishments; appliances for instruction suitable for the physical, moral, and intellectual training of the child previous to its entering school.

Plans and models of scholastic establishments for town and country; system of management and furniture for these establishments. Appliances for instruction: books, maps, apparatus, and models.

Plans and models of scholastic establishments for adult and professional instruction. System of management and furniture of these establishments. Appliances for adult and professional instruction.

Appliances for the elementary teaching of music, singing, foreign languages, book-keeping, political economy, practical agriculture and horticulture, technology, and drawing.

Appliances adapted to the instruction of the blind and of deaf mutes.

Works of pupils of both sexes.

Libraries and publications.

Colman & Glendenning; Manufacturers and Inventors of School Furniture; 23, *Warwick Lane, London, and St. Stephen's Works, Norwich.*

Head Master's Desk and Seat. Pupil-teacher's Desk. Eastern Counties Desk and Seat: this Desk forms at pleasure a flat table, a backed seat facing either way, or a desk. County desk, 3 feet 6 in. long. Collegiate Desk, 3 feet 6 in. long. Patent Dual Desk, 3 feet 6 in. long, having separate seat for each pupil. Various samples of wrought-iron Cap and Cloak Hooks.

Hammer, George Mence; School Furnisher; 370, *Strand, London*; *Factory, Crown Works, Bermondsey, London.* School and College Furniture. Scholars' Desks. Masters' Desks. Easels. Blackboards. Geometrical and Rustic Drawing Models.

Hawes, George E.; Maker and Inventor of School Furniture; *Chapel Field, Norwich.*

East Anglian School Desk for Girls' or Mixed Schools. Norwich Desk for Boys. Birmingham Desk (Dual) for Board

Schools. Norwich Convertible Desk, forming table-desk and seat with back. Norwich Locker Desk, for College and Upper Schools. Schoolmasters' Desk. Schoolmistresses' Table Desk. Infant School Desk. Pupil Teacher's Desk.

Newton & Co.; Opticians, Scientific Instrument Makers, and Inventors; 3, *Fleet Street, London.*

Bi-unial and Triple Lanterns for exhibiting Pictures by means of the Oxyhydrogen Light. Gas Microscopes, Polariscopes, and Apparatus. Patent Phantasmagoria Magic Lanterns with patent Lamp for burning Paraffin Oil. Glass Pictures for the Magic Lantern, illustrating Astronomy, Geology, Natural Philosophy, &c. Globes and Planetariums.

The Religious Tract Society; Publishers of Moral and Religious Books and Tracts; 56, *Paternoster Row, London.*

Books, Pictures, Maps, and other Educational Appliances.

Rundell, Joseph B.; Inventor; 34a, *Pembroke Square, Kensington, London.*

Diagrams of "International Stenography."

Sonnenschein, Adolf; Teacher and Inventor; 8, *Beverley Road, South Penge Park, Anerley, near London.*

An Apparatus to be used in teaching Reading and Arithmetic; also Number-Pictures to be used in the Kindergarten and Infant Schools, and Arithmetic Books explaining the apparatus and its uses through the whole course of study.

Southee, Arthur Philip; Schoolmaster and Inventor; *West Cliff School, Ramsgate.*

Model of School Buildings for Middle Class Boarding School. Appliances for teaching Science. System of Accounts as taught in English Schools. Specimens of School Work generally. Games to assist in teaching History and Geography.

Sunday School Union; Manufacturers; 56, *Old Bailey, London.*

Educational Works. Maps. Scripture Pictures. Reward Books and Cards.

Twining, Thomas; *Perryn House, Twickenham, near London.*

"Science made easy." Appliances for popular Museums and illustrations of Physics, Chemistry, and Biology, with familiar texts for working class audiences and Primary Schools.

CLASS 8.—ORGANISATION, METHODS, AND APPLIANCES FOR SUPERIOR INSTRUCTION.

Plans and models of academies, universities, medical schools, practical schools, technical and practical schools, schools of agriculture, observatories, scientific museums, amphitheatres, lecture-rooms, laboratories for instruction and research.

Furniture and arrangement of such establishments.

Apparatus, collections, and appliances intended for higher instruction and scientific research.

Special exhibitions of learned, technical, agricultural, commercial, and industrial societies and institutions.

Scientific expeditions.

Cole, Arthur C., & Son; Preparers of Microscopical Specimens; *St. Domingo House, Oxford Gardens, Notting Hill, London.*

Pathological preparations from the human subject, both doubly and singly stained. Physiological preparations from man and the lower animals, both injected and stained. Diatomaceæ and insect preparations.

Crisp, Edwards, M.D.; 16, *Beaufort Street, Chelsea, London.*

Casts in wax of the Brains of 200 Species of Birds, with the relative weight of the brain to the body. Models in wax of the Viscera of the Gorilla, Hippopotamus, and other Animals: a new method of teaching Comparative Anatomy.

Darragh, Thomas; Taxidermist, etc.; 7, *College Square North, Belfast.*

Stuffed specimens of Natural History. Feather Screens, &c.

Kesselmeyer, Charles Augustus; Mechanical Engineer, Inventor; 1, *Peter Street, Manchester.*

Calendarium Perpetuum Mobile, a set of eight printed Tables explanatory of the Julian and Gregorian Calendars, and containing a project for the reform of the Calendar.

Middleton, Thomas John; Manufacturer of Magic Lantern and Dissolving View Apparatus; 235, *High Holborn, London. Works, Dulwich, near London.*

The "Malden" Triple Lantern under the control of one operator. The top lantern is movable; the fronts are telescopic; the condensing lenses are $4\frac{1}{2}$ inches in diameter. The object glasses are arranged so as to enable the exhibitor to show at distances from the screen varying from 10 to 100 feet. New form of Jets with Lime Adjusters. Dissolving taps saving 50 per cent. of gas. Reading Stand or Lecturer's Desk. Telescopic, Photographic, and Coloured Slides. Colours and materials for painting Magic Lantern Slides.

Palmer, Samuel; Designer and Compiler; *Park House, Grove Street, South Hackney, and 75A, Strand, London.*

The Index to the "Times" Newspaper, a quarterly publication commenced in 1865, and continued quarterly from that date to the present time.

South Kensington Museum; *London.*

Illustrations of the Stages of instruction followed in the Schools of Art of Great Britain and Ireland. Examples of reproductions of works of Art; namely, Electrotypes, Fictile Ivories,

coloured Photographs, &c. Copies of Illustrated Catalogues of various divisions of Art objects in the Museum. Examples of apparatus for Loan to Science Schools.

Wheeler, Edmund; Preparer of Microscopic Specimens;
48, *Tollington Road, Holloway, London.*

Microscopic Objects, viz.: specimens prepared and mounted for examination under the Microscope, illustrating Biology, Animal and Vegetable Histology, Entomology, and Geology, &c.

CLASS 9.—PRINTING, BOOKS.

Specimens of typography; autographic proofs; lithographic proofs, black or coloured; proofs of engravings.

New books and new editions of books already known; collections of works forming special libraries; periodical publications. Drawings, atlases, and albums.

Augener & Co.; Music Publishers; 86, *Newgate Street, and 81, Regent Street, London.*

"Pauer's Editions of the Classics," and other Musical Series and Volumes.

Bagster, S., & Sons; Printers, Bookbinders, and Publishers;
14, *King's Road, Gray's Inn Road, London.*

Bagster's Polyglot Bible in eight languages. The English Hexapla, comprising the versions of Wiclif 1380, Tyndale 1534, Cranmer 1539, Geneva 1557, Rheims 1582, and the Authorised Version 1611. The Polyglot Bible Series, Bagster's Teachers' Bible, the Fac-simile Series (in four sizes) of Bagster's English Polyglot Bible. The Archaic Classics (Egyptian and Assyrian) and other Books.

Black, Adam & Charles; Publishers; *Edinburgh.* (*Agent in Paris, Galignani, 224, Rue de Rivoli.*)

The Encyclopædia Britannica, a Dictionary of Arts, Sciences, and General Literature, 9th edition; edited by Professor T. Spencer Baynes, LL.D. The first edition, founded on the Encyclopédie of D'Alembert and Diderot, was published in 1771.

Blackie, W. G., & Co.; Letter-press Printers, Copper-plate Printers, Lithographers, and Electrotypers; *Villafield Works, Glasgow.*

Specimens of Letter-press Printing and Copper-plate Printing.

Blackwood, William & Sons; Publishers and Printers;
45, *George Street, Edinburgh, and 37, Paternoster Row, London.* (*Agent in Paris, J. G. Fotheringham, 8, Rue Neuve des Capucines.*)

Educational Class Books.

British and Foreign Bible Society; 146, *Queen, Victoria Street, London.*

Translations of the Holy Scriptures in upwards of 200 languages and dialects of the world. The greater number of these versions have been made or printed through the direct action of the Society, whose issues since the date of its establishment in 1804 have amounted to about 81,000,000 copies.

Brooks (Vincent), Day, & Son; Chromo-lithographers, Producers; *Gate Street, Lincoln's Inn Fields, London.*

Fac-simile Reproductions of British Art by means of lithography.

Bruckmann, Frederick; Publisher; 17, *Southampton St., Strand, London.*

Goethe's Faust, translated into English, illustrated with woodcuts and photographs. Venice, by Gsell Fels, illustrated with photographs and woodcuts.

Collingridge, W. H. & L.; 128, 129, *Aldersgate St., 78, Old Broad St., and New Street, Long Lane, London.*

Specimens of Printing, Letter-press and Lithography. Illustrated publications and other works.

Dangerfield, Frederick; 22, *Bedford Street, Covent Garden, London.*

The Ground Plan of the Paris Exhibition lithographed in colours and inserted in the Second Volume of the Official British Catalogue.

Enoch & Sons; Music Publishers; 19, *Holles Street, Cavendish Square, London.* (*Agents in Paris, Enoch Père et Fils, 27, Boulevard des Italiens.*)

Printed Music.

"The Graphic"; Illustrated Newspaper; 190, *Strand, London.* (*Agent in Paris, C. Carter, 15, Rue Bleue.*)

The whole process of producing a high class Illustrated Newspaper, with sketches, finished drawings, in black and white. Oil paintings and water-colour drawings. Drawings on wood. Photographs on wood. Wood blocks in the various stages of manufacture. Engravings on wood. Wax moulds for electrotyping. Finished electrotypes. Moulds for stereotyping and printing in colours. Finished stereotypes. Tools used in wood engraving. Paper in various stages of manufacture, &c.

Hanhart, Michael & Nicholas; Lithographers; 83, *Charlotte St., Fitzroy Sq., London.*

Examples of Chromo-lithography.

Loth, John Thomas; Author and Compiler; 18, *Gilmore Place, Edinburgh.*

Books:—The Tourist's Conversational Guide to France, Germany, and Italy. French for young children with key. The Christian's Diary: comforts of the Scriptures for young and old. Illustrated work on Freemasonry—The ancient and accepted Scottish Rite, with 33 illustrations.

Minola, Nicola; Author and Compiler; 24, *Charlotte Square, Edinburgh.*

Books:—Original Italian Grammar to enable the student to learn the language theoretically and conversationally, with tables of affinity, &c.

Moonem, Charles; Author; 1, *Rue St. Eleuthère, Paris.*

Printed Book, entitled "Paris in Four Days," a complete and practical guide to all the sights and objects of interest in the French metropolis, compiled on an entirely new system.

Newspaper Publishing Company, Limited, PROPRIETORS OF THE PICTORIAL WORLD, ILLUSTRATED NEWSPAPER; 68, *Fleet St., London.*

Engravings, Sketches, &c.

The Patent Lithotype Company, Limited; Type Founders, Inventors, and Patentees; 22, *St. John Square, Clerkenwell, London.*

Lithotype, with specimens of printing therefrom. This type is sunk or engraved and *not raised* as in letter-press. It has all the appearance when set up of a highly finished copper-plate engraving, but is far more durable for transfer work than copper-plate. The saving in expense of printing from the lithotype is equal to 50 to 60 per cent, and the time occupied in making a design (which would take a week to engrave) setting up the type, taking transfer, and laying the same on stone does not exceed five hours.

The Patent Printing Surface Co. (Leighton's Patents); Inventors, Patentees, and Manufacturers; 281, *Strand, London.*

Specimens of elastic vulcanised India-rubber Stumps and Printing Surfaces in relief, with samples printed both by hand and machine upon hard brittle and corrugated surfaces.

Pure Literature Society; (Richard Turner, Secretary); 11, *Buckingham St., Adelphi, Strand, London.*

Specimens from 3,000 selected Books and Periodicals for Lending Libraries, for general Readers, or for Institutions, &c. Cottage Wall Pictures; Diagrams for Lectures; Maps; Specimens of Libraries for Working Men, Schools, Sailors and Parochial Lending Libraries.

Reed and Fox; Letter Founders to Her Majesty, and Printing Material Makers; *Fann St. Foundry, Aldersgate St., London.*

Specimens of Hard Metal Types and Printing Materials.

Seeley, Jackson, & Halliday; Publishers; 54, *Fleet St., London.*

"The Portfolio," an artistic periodical, published monthly, containing articles on artistic subjects, with etchings, engravings, woodcuts and other illustrations. Illustrated Books.

Skipper (Charles) & East; Engravers and Printers of Bank Notes, Cheques, Stamps, &c., Account Book Manufacturers, &c.; 1, *St. Dunstan's Hill, Great Tower Street, London.*

Bank notes in eccentric and inimitable engraving, printed from steel and intaglio plates and blocks, for the prevention of forgery. Bankers' Cheques printed in secure vegetable ink, proof against alteration either by chemical agency or erasure. Postage Stamps, Share certificates, Bonds, Bills of Exchange, &c., Account Books for Bankers, Merchants, Public Companies, &c., &c., in various bindings, made of *hand-made* and imitation papers, &c.

Spottiswoode & Co.; Printers; *New Street Square, London.*

Printed Books, Newspapers, Publications, &c.

Stanford, Edward; Map Publisher, 55, Charing Cross, and 13 and 14, *Long Acre, London.*

Specimens of Engraving and Lithography as applied for Maps. (Exhibited in Class 16).

Stephenson, Blake, & Co.; Type Founders; 33, *Aldersgate St., London. Works, Sheffield.*

Printed specimens of Printing Types.

Stewart, Charles, M.A., MEMBER OF THE SOCIETY OF ARTS, LONDON, AND OF THE ACADEMIE NATIONALE, PARIS; 50, *Colebrooke Row, Islington, London.*

Two books entitled respectively "International Correspondence by Means of Numbers, an Easy Method whereby People of Different Nations may readily communicate with each other."—London, 1874; and "How to Learn the Morse Alphabet in half an hour."—London, 1876. Published by E. Marlborough & Co., 51, Old Bailey, London.

Typographic Etching Company; (Dawson's Patent); 23, *Farringdon St., London, and Hogarth Works, Chiswick, Middlesex.*

Specimen impressions—(I.) Of Automatic and Photographic Engravings, in relief for letter-press printing: *a.*, by the Typographic Etching process; *b.*, by the Typographic Etching Company's Photo-relief process. (II.) Of Photographic Engraving, in intaglio for copper-plate printing. (III.) Specimen Drawings on prepared plate used in the Etching process.

(IV.) Specimens of Printing Blocks produced by the Etching process and the Photo-relief process. (V.) Electrotypes of engraved blocks for letter-press printing purposes.

Uhlich, Heinrich Sigismund; Engraver on Wood;
Brynterion, Cheshfield, Chislehurst, Kent.

Engravings on Wood, principally portraits.

Unwin Brothers; "The Gresham Press;" 1, 2, and 3'
Oxford Court, 109A, Cannon Street, London, and St.
Martha Printing Works, Chilworth, Surrey.

Letter-press printing in fac-simile. Antique and modern type. A new "Biblia Pauperum," &c. (speciality). Specimens of Photo-lithography. Reductions in Curtain and Fine Lace work. Patent enamelled Zinc Tablets.

Virtue and Co., Limited; Engravers and Printers; 294,
City Rd., London.

Line Engravings after Pictures by British and Foreign Artists.

Ward, Marcus, & Co.; Publishers, Colour Printers, and
Manufacturers of Stationery; 67, *Chandos St., Strand,*
London; *Factory, Royal Ulster Works, Belfast,*
Ireland.

"Royal Irish Linen" Writing Papers; Illustrated Books;
Chromo Prints; Maps and Atlases; Christmas, New Year,
Easter, and Birthday Cards; Sunday School Reward Cards;
Valentines; Photograph Albums; Scrap Books; Vere Foster's
Writing and Drawing Copy Books; Fine Art Gift Books;
Children's Picture Books; Menu and Ball Programme Cards;
Fancy Leather Goods; Concise Diaries; Calendars; Double
Patent Detector Cheques, &c.

Welch, William James; Artist, Draughtsman and Engraver
on Wood; 25, *Wellington St., Strand, London.*

Frames containing Specimens of Wood Engravings of Archi-
tecture, Landscapes, Portraits, Figures, Statuary, Machinery,
&c., for Illustrating Books, Magazines, Newspapers, Cata-
logues, &c., and for Advertising purposes.

Whitaker, Joseph; Editor and Publisher; 12, *Warwick*
Lane, Paternoster Row, London.

"Whitaker's Almanack," containing an account of the Astro-
nomical and other Phenomena, a large amount of information
respecting the Government, Finances, Population, Commerce
and General Statistics of the British Empire throughout the
world, with some notices of other countries; 10 Vols., 1869 to
1878. "The Bookseller," a newspaper of British and Foreign
Literature. A monthly journal for the use of Booksellers,
Publishers, Librarians and Literary Amateurs; 20 Vols., 1858
to 1877. "The Reference Catalogue of Current Literature,"
a Catalogue of handy reference for Booksellers, Librarians, and
Literary Amateurs, containing the Full Titles of Books now in
print and on sale, with the prices at which they may be obtained

of all Booksellers, and an Index to upwards of 40,000 works ; 3 Vols., 1874, 1875, 1877. All edited by Joseph Whitaker, F.S.A.

Whymper, Edward ; Engraver on Wood ; 45, *Lambeth Road, London.* (*Agent in Paris, C. Carter, 15, Rue Bleue.*)

Frames of Engravings on Wood for Book Illustrations, &c.

CLASS 10.—STATIONERY, BOOKBINDING, PAINTING, AND
DRAWING MATERIALS.

Paper ; card and pasteboard ; inks ; chalks ; pencils ; pastels ; all things necessary for writing-desks and offices ; inkstands ; apparatus for weighing letters, &c. ; copying presses.

Objects made of paper : lamp shades, lanterns, flower-pot covers.

Registers, copybooks, albums, and memorandum books ; bindings, loose covers for books, cases, &c.

Various products used in water-colour painting and tinting ; colours in cakes, pastels, bladders, tubes, and shells. Instruments and apparatus for the use of painters, draughtsmen, engravers, and modellers.

Alexandre, J. ; Inventor and Manufacturer of the Humboldt Steel Pen ; *York Row, York St., Birmingham.* (*Agents in Paris, Caen & Gaffré, 4, Rue de Braque.*)

The Humboldt, the Phoenix, the Rossini, the Kalam, and other Steel Pens and Penholders.

Bagster, S., & Sons ; Printers, Bookbinders, and Publishers ; 14, *King's Road, Gray's Inn Road, London.*

Books as specimens of binding. (Exhibited in Class 9.)

Best Ink Co., The ; Inventors and Manufacturers ; 48, *Edgware Road, London.* *Works, near Chertsey, Surrey.*

The Best Inks, Writing Fluids, and the Best Ink Soluble Compound in a solid concentrated form, requiring simply the addition of water to make excellent ink fit for immediate use, permanent black, perfectly fluid, and non-corrosive.

Blackie & Son ; Publishers and Bookbinders ; 17, *Stanhope St., Glasgow,* and 6, *Paternoster Buildings, London.*

Specimens of Book Binding in Morocco and Calf Leathers, and in Cloth.

Blackwood & Co. ; Writing Ink and Sealing Wax Manufacturers ; Inventors ; 18, *Bread St., Hill, London.*

Copying and Writing Inks ; Marking Inks, especially "Jetoline" ; Sealing Wax ; and Liquid Gums.

Bond, Mrs. M. A. (now Hickisson); Inventor and Manufacturer of Marking Ink; 75 to 84, *Southgate Road, London.*

Crystal Palace and Royal Indelible Marking Ink and appliances for writing upon linen, cotton, silk, &c. without any preparation required.

Bowman, Charles; Manufacturer and Inventor of Solid Stencil Inks and Stencil Plate Brushes; 6, *King St., Tower Hill, London.*

Specimens of Solid Stencil Inks, Stencil Plate Engravings, and Stencil Brushes.

Buckinghamshire Millboard Co.; Manufacturers of Millboards and Brown Paper; *The Lower Mills, Wooburn, Bucks.*

Best Millboards and Brown Paper.

Cornelissen, Louis, & Son; Manufacturers of Colours, Inks, and Transfer Papers; 22, *Great Queen's St., Lincoln's Inn Fields, London.*

Dry Colours, Printing Ink, Varnishes, any kind of Lithographic Materials, Transfer Papers of every description, Artist Materials.

Cowan, Alexander, & Sons; Paper Manufacturers; 50, *Cannon St., London*; 38, *West Register St., Edinburgh*; *Valleyfield Mills, Pennicuick, near Edinburgh.*

Writing Papers of various kinds; Tinted Writing Papers; Drawing and Cartridge Papers; Ammunition Papers; and General Stationery.

Crompton, James R.; Paper Manufacturer; *Elton Paper Mills, Bury, Lancashire.* (*Agents in Paris, S. and C. Harding, 18, Rue de l'Echiquier.*)

White and coloured Tissues, and coloured Double Crowns, Copyings, Cigarette and Tracing Papers, white and coloured Cartridges, and fine Printings.

Dane & Co.; Ink, Varnish, and Colour Makers; 33, *Bouverie Street, London.* *Works, Sugar House Lane, Stratford, Essex.*

Printing Inks of all descriptions and in all colours. Dry colours for making the Inks. Varnishes of all descriptions for Printers, Bookbinders, and Painters.

Dunn & Co.; Printing Ink Manufacturers; 31, *Bouverie St., Fleet St., London.*

Printing Inks, black and coloured. Specimens of printing from same. Materials from which made.

Erhardt, H., & Co.; Manufacturers of Parchment; 9, *Bond Court, Walbrook, London.* *Works, Limehouse, London.*

Vegetable Parchment (Parchment Paper), white and coloured; also Tracing Parchment Paper all in rolls and sheets.

Fleming, A. B., & Co.; Printing Ink Manufacturers, Inventors; *Scottish Printing Ink Factory, Caroline Park, Edinburgh*; and 46, *Queen Victoria Street, London.* (*Agent in Paris, X. Verdier, 112, Rue Truffaut.*)

Printing Ink, Black and Coloured, Letter-press and Lithographic, with selected specimens. Selected newspapers from every quarter of the world as specimens of printing, with A. B. Fleming & Co.'s printing ink for newspapers.

Fletcher, Robert, & Son; Paper Manufacturers; *Kersley Paper Works, Stoneclough, near Manchester.*

White and Coloured Papers. Fine tissues (for artificial florists, stove ornaments, and decorative purposes); Artificial Flowers and Stove Ornaments made from these papers; Grass Bleached Tissue specially prepared for wrapping up silver plate so that the goods will not tarnish; Copying Papers, Copying Books; Cigarette Papers; Cartridges.

Gillott, Joseph, & Sons; Steel Pen Makers; *Victoria Works, Graham St., Birmingham.* (*Agents in Paris, Rozey & Delihu, 36, Boulevard Sebastopol.*)

Steel Pens and Penholders.

Goodall, Charles, & Son; Playing Card Manufacturers, Envelope Makers, Manufacturing Stationers, and Colour Printers; *Camden Works, 24, Great College St., Camden Town, London.*

Playing Cards; Christmas Cards, &c.; Baskerville, Japanese and other Stationery. (*See also Class 61.*)

Grosvenor, Chater, & Co.; Paper Makers and Account Book Manufacturers; 68, *Cannon St., London.* *Works, Glory Mills, Wooburn, Bucks; and Abbey Mills, Holywell, Flint.*

Writing, Drawing, Printing, and Blotting Papers, Water-marked Papers for Bank Notes, Note Papers and Envelopes. Account Books.

Hinks, Wells, & Co.; Steel Pen Makers; *Buckingham St., Birmingham.* (*Agents in Paris, Caen & Gaffré, 4, Rue de Braque.*)

Steel Pens and Penholders.

Hyde & Co.; Makers of Writing Inks, Sealing Wax, &c.; 25, *Saint Bride St., Ludgate Circus, London.*

Writing Ink of every description, Black, Copying, and Coloured. Sealing Wax of every description. India Wax for hot climates (*spécialité*).

King, Son, & Whitaker; Envelope Manufacturers and Wholesale Stationers; 4 and 5, *Old Bailey, London.*

Best English machine and hand made Writing and Drawing Papers; Note Papers and Envelopes.

Lawrence, Thomas John; Manufacturer of Engraver's Blocks; 12, *Wine Office Court, Fleet St., London.*

Specimens of Bolted Blocks, as used by wood engravers, publishers, &c.

Lechertier, Barbe, & Co. ; Artists' Colourmen ; 60, *Regent St., London.*

Artists' Materials and Colours, and Artists' Lay Figures.

Leonardt, D., & Co. ; Steel Pen Makers and Inventors ; *Universal Pen Works, 69, George St., and 100a, Charlotte St., Birmingham.*

Steel Pens, Marcographic Pens, Patent Neptune Pens, Penholders, Pencil Cases, Patent Metal Boxes, Gold Pens.

Lyons, William ; Ink and Sealing Wax Manufacturer and Inventor ; 19, *Park St., Ducie Bridge, Manchester ; and 79, Watling St., London.*

Blue Black Writing and Copying Fluids ; also various coloured Writing and Copying Inks, Liquid Gums for office use, and Sealing Wax.

Moncrieff, John ; Glass and Ink Manufacturer ; *North British Glass and Ink Works, Perth, Scotland.*

Writing Inks and Copying Inks. Soluble Paris Blue without Oxalic Acid, used for clearing linen by neutralizing all other tints. (*See also Class 54.*)

The Patent Waterproof Paper and Canvas Company ; Waterproofers, Manufacturers, and Inventors ; *Canal Works, Willesden Junction, near London.*

Waterproof Paper: Insoluble Metallic Card in rolls of any length, and in sheets. Insoluble Cloth lined Paper. Water resisting Canvas and other Woven Fabrics, and Spun Yarns. Insoluble Tubes, Panels, Labels, etc., manufactured by a new chemical process.

Perry & Co., Limited ; Inventors and Manufacturers of Steel Pens, &c ; 19, and 20, *Holborn Viaduct, London. Works, 36, Lancaster St., and Albert Works, Graham St., Birmingham.*

Steel Pens, Penholders, Paper Binders, Pencil Cases, Stationers' Sundries, Steel Split Rings, and Key Rings. Solitaire Buttons with Mechanical Action.

Pirie, Alexander, & Sons ; Paper Makers, Envelope and Card Makers ; *Stoneywood Works, near Aberdeen.*

Papers, Writing (tubsized), Drawing ; Loan ; Book papers, and Cartridge ; Envelopes of every description ; Cardboards and Cards of every description ; Enamelled Papers, Coloured Papers, Chromo Papers, &c.

Routledge, Thomas ; Inventor and Patentee of Esparto and Fibre Paper ; (*The Ford Works Co., Limited, Manufacturers*) *Ford Works, South Hylton, near Sunderland.*

Two Bales of Esparto or Alfa Patent Paper Stock. One Cake of Bleached Half Stuff. Bamboo Fibre and paper made therefrom.

Bowney, George, & Co. ; Manufacturing Artists' Colourmen ;
10 and 11, *Percy St., Rathbone Place, London.*
Works, Diana Place, Euston Road, London.

Colours extra finely ground in oil for Artists' use. Colours extra finely ground in water for Artists' use. Artists' Brushes, made of sable, camel, badger, and hog hair; Chinese Ink, Palette Knives, Mathematical Instruments, Colour Boxes, Pencil Cases, Set Squares, T Squares, Chromo-lithographs and Lithographic Studies.

Sanders, H. G., & Son ; Metallic Collapsible Tube Manufacturers ; *Victoria Works, Victoria Gardens, Notting Hill Gate, London.*

Metallic Collapsible Tubes for artists' colours, Perfumes, Shaving Soap, and Cosmetics. Patent Stoppers, and Feeding Bottles.

Saunders, T. H., & Co. ; Paper Manufacturers (Hand and Machine) ; *Lyons Wharf, Upper Thames St., London, Works for Machine-made Paper, Phoenix and Hawley Mills, Dartford, Kent ; for Hand-made Paper, Darent and Sundridge Mills, Kent, and Beech Mill and Rye Mill, High Wycombe, Buckinghamshire.*

Writing paper, hand and machine made. Water-marked Bank Notes, Shares, &c. Printing, Plotting, and Cheque Papers, and artistic designs in water marks.

Skipper (Charles) & East ; Engravers and Printers of Bank Notes, Cheques, Stamps, &c. Account Book Manufacturers, &c. ; 1, *St. Dunstan's Hill, Great Tower St., London.*

Account Books for Bankers, Merchants, Public Companies, &c. in various bindings made of *hand-made* and imitation papers, &c. (Exhibited in Class 9.)

Stephens, Henry Charles ; Manufacturer and Inventor ;
171, *Aldersgate St., London.*

Writing Fluids and Copying Inks, with some new and important discoveries therein. Ink Powders, Machine ruling and endorsing Inks, Marking Ink for Linen and copyable Printing Inks, Inkstands, Gum Mucilage, Quills, Sealing Wax, Parallel Rulers, and Stains for Wood.

Terry, Stoneman, & Co. ; Manufacturing Stationers and Inventors ; 6 and 82, *Hatton Garden, London.* (*Agents in Paris, Heilbronner & Lipmann, 34, Faubourg St. Martin.*)

A Frame containing specimens of Oxford registered mourning Note Papers and Envelopes, the borders being solid black without any ornamentation. Also Memorial Cards of various designs.

Waterlow & Sons, Limited ; Manufacturing Stationers, Printers, Engravers, and Lithographers ; *London Wall, 49, Parliament St., 25, 26, and 27, Great Winchester St. ; Factories, Finsbury Stationery Works, Hill St., Finsbury. (Agents in Paris, S. & C. Harding, 18, Rue de l'Echiquier.)*

Stationery. Account Books, Die Sinking, Commercial Engraving, Security Cheques, Testimonial Engrossing, Envelopes, Railway Tickets, general Railway Stationery, &c.

Waterston (G.), Sons, & Stewart ; Sealing Wax Makers ; 56, *Hanover St., Edinburgh, and 9, Rose St., Newgate St., London.*

Sealing Wax, comprising Letter Wax, for home use, and for hot climates, Parcel Wax, Bottle Wax, Engraver's Wax, for seals, and for brasses, &c.

Watkins & McCombie ; Quill Merchants and Sealing Wax Makers ; 5a, *Cloak Lane ; and 24, College Hill, London.*

Goose, Swan, and Hudson's Bay Quills and Pens cleaned, dried, fired, and hardened by a new process, and cut by hand to suit any writing. Sealing Wax with improvement in colour and power of adhesiveness, hardness of quality in India Wax, and greater tenacity and strength in Bankers', Letter, and Bullion Wax.

Willis, William Henry, & Co. ; Card Manufacturers and Printers ; 80, *Long Acre, London.*

Playing Cards, Untearable Ball Programme Cards, Menu Cards, Visiting Cards, Perforated Cardboards, Ivory Boards, Drawing Boards, Calendars, &c.

Wolff, E., & Son ; Pencil and Stationery Manufacturers and Inventors ; 55, *Great Queen St., Lincoln's Inn Fields, London. Factory, Steam Works, Battersea, London.*

Black-lead and coloured Pencils of various kinds ; Specimens of natural and manufactured Graphite ; Drawing Materials ; Stationers' Sundries and Novelties.

Woolley & Co. ; Card Manufacturers ; 210, *High Holborn, and 24 and 25, Newton St., London.*

Playing Cards, Perforated Boards, Mounting Boards, Bristol Boards ; Cards of all kinds Fancy and Enamelled Papers ; Fancy Stationery.

CLASS 11.—GENERAL APPLICATION OF THE ARTS OF DRAWING AND MODELLING.

Designs for industrial purposes : designs obtained, reproduced, or reduced by mechanical processes. Decorative paintings, lithographs, chromo-lithographs, or engravings for industrial purposes. Models and small articulated wooden models of figures, ornaments, &c.

Carvings. Cameos, seals, and various objects decorated with engraving. Objects modelled for industrial purposes produced by mechanical processes, reductions, photo-sculpture, &c. Casts.

Clarke, C. Purdon ; 16, *Earl's Court Gardens, Brompton, London.*

A reproduction of a Mosaic picture of Raphael's from Rome. (Exhibited in the Indian Section).

Green, James ; Decorative Artist and Designer ; 20, *Moore Street, Chelsea, London.*

Design for Mosaic Floor, to be executed in pottery, mosaic designs for the ceiling and walls of Baron Reuter's dining room, Kensington Palace Gardens (executed).

Holt, Frank ; Glass Stainer and Decorator ; *St. John's, Warwick.*

Designs for Stained Glass for Church Windows. (See also Class 19.)

Jenner & Knewstubb ; Die Sinkers, Heraldic Engravers, Relief Stampers, Fancy Stationers, and Illuminators ; 33, *St. James's St.* and 66, *Jermyn St., London.*

Dies, with Specimens executed in gold and colours, and illuminated, &c., &c.

Minns, James ; Sculptor ; *Mariners Lane, Norwich.*

Carvings in Wood. Birds, Animals, Foliage, &c.

Ortner & Houle ; Designers, Engravers, Jewellers, &c. ; 3, *St. James's St., London.*

Specimens of Seal Engraving and Die Sinking, of Copper and Steel Plate and Silver Engraving. Specimens of Heraldic Painting, &c.

Peel, Joseph ; Cabinet Maker. Inventor of Tools used ; *Roker Lane, Pudsey, near Leeds.*

Medallion and complex turning in wood, ivory, and marble, applicable to high class Cabinet Work, &c.

Poole, Edward ; *Chester Terrace, Habberley Road, Bewdley.*

Original designs for Brussels Carpets. Five Frames.

Pugh Bros. ; Heraldic Artists, &c. ; 9, *Great Turnstile, Lincoln's Inn, London.*

Heraldic Paintings on Vellum ; Heraldic Paintings in Oil on Wood and Silk. Presentation Addresses on Vellum. Wax Impressions of Stone Seal Engraving. Heraldic Engravings (for book-plates) on Steel and Copper. Die Sinking and illuminated Impressions of ditto.

Shepperd, William Henry ; Heraldic Artist and House Painter ; *St. Mary's Place, Shrewsbury.*

Specimen of Design and Workmanship of Heraldic Painting : the Arms, Crest, and Motto of A. P. Lloyd, Esq., Leaton Knolls, near Shrewsbury.

Soans, Harry; Heraldic Designer, Engraver and Printer;
8, *Green Street, Leicester Square, London.*

Heraldic Devices executed on Wood Blocks as Book Labels
and Trade Marks.

CLASS 12.—PHOTOGRAPHIC PROOFS AND APPARATUS.

Photographs on paper, glass, wood, stuffs, and enamel. Helio-graphic engravings, lithographic proofs. Photo-lithographic proofs, photographic stereotypes, stereoscopic proofs, and stereoscopes. Enlarged photographs. Colour photographs.

Instruments, apparatus, and chemicals necessary for photography.
Materials and appliances used in photographic studios.

The Autotype Company; Manufacturers and Publishers of
Permanent Photographs; 36, *Rathbone Place, London*;
Works, Ealing Dene, Middlesex. (*Agents in Paris,*
Guilleminet et Cie., 6, Rue Choron.)

Carbon Tissue and Transfer papers. Permanent Photographic
Proofs, produced by the carbon printing or autotype process.
Photographic Proofs obtained in the printing press by Sawyer's
Collotype process.

Baudoux, Charles Ernest; Photographic Artist; 59, *New
Street, St. Heliers, Jersey.*

Photographic Portraits and Views. Enlargements. Photographic
Transparencies. Stereoscopic Views, all printed in carbon by
the Lambertype and chromotype processes.

Beau, Adolphe; Photographic Artist; 56, *Welbeck St.,
London.*

Photographs (Heliotechnic Process).

Bedford, William; Photographer; 326, *Camden Road,
London*

Landscape Photographs.

Boucher, Albert; Artist and Photographer; 15, *King's
Road, Brighton.*

Photographic Portraits from life.

Brice, William A.; Inventor and Patentee; care of **Clifford
Poulter**, 4th, *Middle Temple Lane, London.*

Improved Photographic Apparatus (the Photographon) for wet
process or for preparing dry plates, dispensing with tent, dark
box, &c. (Exhibited in Mr. George Hare's case.) (Exhibits
also in Class 67).

Brownrigg, T. M.; *Artington House, Guildford, Surrey.*

Landscape Photographs by the wet Collodion process.

Dallmeyer, John Henry; Manufacturing Optician and
Inventor; 19, *Bloomsbury St., London.*

A new double combination Portrait Lens. The "Rapid" and
"Wide Angle" Rectilinear Lenses. A single combination Lens
(a cemented triplet) for landscape photography. A new double

combination Objective for the Magic Lantern, specially constructed for the exhibition of diagrams for science lectures, &c. Cameras and Apparatus of special design for portraits, landscapes, and copying.—Exhibited in Class 15.

Elliott & Fry; Photographers and Artists; 55, *Baker St., Portman Sq., London.*
Photographic Portraits.

England, Wm.; Photographer and Publisher; 7, *St. James's Square, Notting Hill, London.*

Photographs on Paper: Views of Switzerland, Savoy, and Italy, &c. Photographic copies of Statuary. Views of Scenery and Statuary on Glass for the Stereoscope and Magic Lantern, &c.

Faulkner, Robert, & Co.; Artists and Photographers; 21, *Baker Street, London.*

Pictures having a photographic base and Photographs.

Fisk, Alfred S.; Photographer and Artist; *St. John St., Woodbridge, Suffolk.*

Instantaneous Studies in Photography of Animals: Horses, Dogs, Pigs, and Sheep.

Fry, Samuel; Photographer; 9, *Surbiton Park Terrace, Kingston-on-Thames.*

Examples of effects produced by combining a number of Photographic Negatives.

Godbold and Basebe; Miniature Painters and Photographers; *South Kensington, London, and 8, Grand Parade, St. Leonards-on-Sea, Sussex.*

Miniatures painted on China, with autotype basis. Permanent Chromotype and Autotype Photographs, and Carbon Transparent Photographs for window decoration.

Hare, George; Photographic Apparatus Manufacturer and Inventor; 26, *Calthorpe St., London.*

Photographic Cameras, Tripod Stands, and other Apparatus. Revolving Albums. Graphoscopes with new revolving Stereoscope combined.

Heath, Vernon; Artist; 43, *Piccadilly, London.*

Examples of a Series of more than 200 Photographs of well-known places, Country Mansions, and studies of celebrated Trees in the British Isles, enlarged from negatives 12 inches by 10, and printed by the Autotype Process.

Hedges, David; Photographer; 7, *Queen St., Lytham, Lancashire.*

Four Frames of Photographs:—Studies of Animals.

Henderson, Alexander Lamont; Ceramic and General Photographer, Inventor, and Patentee; 49, *King William St., City, and Amersham Road, London.*

Vitrified Enamel Photographs.

Jennings, Payne; Photographic Publisher; *Elm Grove, Rosendale Villas, West Dulwich, London.*

Photographic Landscape Studies in the Lake Districts of England and Ireland.

Lemere (Bedford) & Co.; Architectural Photographers; 147, *Strand, London.*

Architectural Photographs from the Royal Academy, Royal Architectural Museum, Westminster, Elizabethan and Modern English Mansions, and details of Carvings, &c.

The Liverpool Dry Plate and Photographic Printing Co.; (Peter Mawdsley, Manager). Manufacturers of Dry Plates and Emulsions; 1b, *St. John's Hill, Clapham Junction, London.*

Framed Photographs printed from negatives made on "Liverpool" Emulsion Plates.

Lombardi & Co.; Photographers; *Brighton and London.*
Photographs.

The London Stereoscopic Company; Photographers and Publishers; 110, 108, 106, *Regent St., and 54, Cheapside, London.*

Photographs of distinguished persons in Frames.

Malthy, William Flower; Photographer; 176, *Upper St., Islington, London.*

Photographs on paper and porcelain.

Norman, Carl, and Company; Landscape Photographers; *Graphic Villa, Tunbridge Wells.*

Photographic Views from India, Egypt, and the Continents of Europe and America.

Robinson, Henry P.; Photographer; *Public Hall Studio, Tunbridge Wells.*

Photograph, "When the day's work is done."

Sherlock, William; Photographer; *Budleigh Salterton, Devon.*

Photographs from nature (untouched).

Slingsby, Robert; Photographic Artist; 168, *High St., Lincoln.*

Photographic Portraits of large size taken direct from the life. Pictures combining Figures and Landscape, photographed from nature.

Van der Weyde, Henry; Photographer; 182, *Regent Street, London.*

Portraits by the electric light.

Warnerke, Leon; Inventor and Manufacturer; 10, *Linden Grove, Peckham Rye, London.*

The Sensitive Negative Tissue (a substitute for Glass in the production of photographic negatives). Illustration of its

various applications and advantages. Apparatus specially designed for the use of the Tissue. Specimens of work produced on the Tissue.

Watkins, Herbert; Photographer; 1, *Torriano Avenue, Camden Road, London.*

Photographs printed in silver; also in carbon.

Wheeler, William Henry; Bookseller, &c. and Photographer; 106, *High St., Oxford.*

Large Architectural Photographs taken direct from the subjects by the aid of lenses, &c. arranged and contrived by the Exhibitor.

Whiting, Matthew; *Lavender Hill, Wandsworth, London.*

Photographic views taken on "Dry Plates."

York, Frederick; Photographer and Manufacturer of Magic Lantern Slides; 87, *Lancaster Road, Notting Hill, London, and Bridgwater, Somersetshire.*

Photographs and Magic Lantern Transparencies of animals in the Zoological Gardens, London, taken from life.

CLASS 13.—MUSICAL INSTRUMENTS.

Non-metallic wind instruments: with common mouth pieces, with reeds with or without air reservoirs.

Metallic wind instruments, simple, with lengthening pieces, with slides, with piston, with keys, with reeds.

Wind instruments with keyboards: organs, accordions, &c.

Stringed instruments played with the fingers or with the bow, without keyboards.

Stringed instruments with keyboards: pianos, &c.

Instruments played by percussion or friction.

Automaton instruments, barrel organs, bird organs.

Separate parts of musical instruments and orchestral appliances.

Barratt and Robinson; Pianoforte Manufacturers; 9a, *Georgiana St., Camden Town, London.*

Pianoforte. Exhibited for its tone, touch, durability, neatness of style, and lowness of price.

Bauer, Gilbert L.; Organ-Harmonium Manufacturer; 49, *Tottenham St., Tottenham Court Road, and 101, Charlotte Street, Fitzroy Square, London.*

Two manual Pedal Organ Harmonium for Organist or Student practice, and Grand Concert Model Organ Harmonium. One case of steel tongued and white metal harmonium vibrators.

Brinsmead, John, and Sons; Pianoforte Manufacturers and Inventors of the Patent Perfect Check Repeater Action; 18, *Wigmore St., Cavendish Square, London. Factory, The Brinsmead Works, Grafton Road, London.*

Full Concert Grand Pianoforte, in walnut case, with patent "perfect check repeater" action, improved metal frame and sounding board, sympathetic scale, tone sustaining pedal, &c.

Short iron Grand Pianoforte, in walnut case, with patent "perfect check repeater" action. Grand Oblique Pianoforte, with patent "perfect check repeater" action, full metal front frame, sostenente sounding board, &c., &c. Half Oblique Pianoforte, with patent perfect check repeater action, iron front frame, sostenente sounding board, &c. Upright Pianoforte, with patent perfect check repeater action, &c., &c. Model of Patent "Perfect Check Repeater" Action for Grands; Model of Patent "Perfect Check Repeater" Action for Upright Pianos.

Brooks, Robert; Musical Instrument Manufacturer and Inventor; *Houghton Regis, Dunstable, Bedfordshire.*

Two small Pianofortes, with new Keyboards, invented for facilitating the playing of the pianoforte, harmonium, and organ. The keyboard can be adapted to pianofortes, harmoniums, and organs in present use at a moderate cost. New design for an Illuminated Clock. This invention will enable persons to see the time by a clock, day or night, at a great distance. It can also be cheaply adapted to clocks and watches in general use.

Brown, Richard, & Son; Organ Builders, Inventors; 324, *Kennington Road, London.*

The Student's Organ, having two manuals and pedals, 30 notes, containing Clarabella and Leiblich bass, open diapason; stopped diapason bass; couplers swell to pedals. Great to pedals.

Challen and Son; Pianoforte Makers; 20, *Oxford Street, London.* Works, 36, *Cardington Street, Euston Square, London.*

One Cottage Grand Piano, style, early English. One Cottage Piano in walnut case. One Boudoir Piano in walnut case. One Pianette, an example of good touch and tone in a small piano.

Chanot, George; Violin Maker; 103, *Wardour St., London.* Violins, Violas, Violincellos, and one Grand Pattern Double Bass, after Stradivarius.

Dreaper, Wm. H. & G. H.; Pianoforte Manufacturers; 96, *Bold Street and 103, Wood Street, Liverpool.*

Oblique Grand Pianoforte (cottage shape), with composite iron frame, the case in Egypto-Grecian style.

Hemingway and Thomas; Pianoforte Manufacturers; 27, *Victoria Road, Kentish Town, London.*

Piano, Class 4, English Model in Rosewood. Piano, Class 4a, German Model in Walnut. Piano, Class 6a, Parisian Model in Walnut. All newly designed and registered.

Hillier, James; Manufacturer of American Organs and Harmoniums. Inventor of the Orchestrophone; 12, 13, 14, & 15, *King's Road, Camden Town, London.*

The "Orchestrophone," a combination of the American Organ and Harmonium. The advantage consists in enclosing in the same instrument two distinct instruments which, at the will of the performer, can be played separately or together by means of pedals.

Hopkinson, J. & J.; Manufacturers of Pianofortes and Inventors; 235, *Regent St., London. Factory, Fitzroy Road, Regent's Park, London.*

Iron Concert Grand Pianoforte, in oak case, with patent action. Iron Drawing-room Grand Pianoforte, in walnut, with patent action. Iron Boudoir Grand Pianoforte, in ebonised and gilt case, with patent action. Iron Cottage Pianoforte in ebonised and gilt case.

Ivory, Henry A., & Co.; Pianoforte Manufacturers; 23, *Holborn Viaduct, London. Factory, Wood Green, near London.*

A. Specimen of High Class Drawing-room Pianoforte, full trichord, in elegant burr walnut case. B. Specimen of thoroughly well-made Pianoforte designed for the people, combining durability and excellence of workmanship with sufficient attractiveness of appearance, and at extremely moderate cost.

Lachenal & Co.; Concertina Manufacturers; 4, *Little James Street, Gray's Inn Road, London.*

Improved Concertinas, having the stretch of the Violin, on which can easily be played all the chords from 2 to 8 notes. All music written in the key of G for violin, piano, flute, or oboe can be played on these instruments.

Monington and Weston; Pianoforte Manufacturers, and Patentees of Keyboard Scale Attachment; 9, *Camden St. Works, King Street and Bayham Pace, Camden Town, London.*

Two Pianofortes, one with the patent keyboard scale attachment for educational purposes.

Smith, James Muir; Pianoforte Manufacturer; 116 and 118, *Bayham St., Camden Town, London.*

One Pianoforte.

Strohmenger, J., & Sons; Pianoforte Manufacturers and Inventors; 169 and 206, *Goswell Road, London.*

Grand Cottage Pianoforte in walnut case, with patent check action combining strength with simplicity and exactness of touch: 7 octaves, full trichord, iron construction, overstrung. Tone equal to a "full grand," will keep unaffected by climate.

Wallis, Joseph; Inventor and Manufacturer of Musical Instruments and Materials; 133 and 135, *Euston Road, London.*

Flutes and Flageolets of the most useful sizes made of cocus wood, fitted with from one to eight keys, mounted in silver and German silver, some having patent tuning slide. Flutes and Flageolets for Bands of every description made in nickel silver, with from one to four keys, some having patent tuning slide.

Wornum, Robert, & Sons; Pianoforte Manufacturers, Inventors; 16, *Store St., Bedford Square, London.*

A short Iron Grand Pianoforte (length under 6 feet). Method of construction invented and patented by A. N. Wornum in

1875. It has the advantage over the usual German method of "cross-stringing," in that, whilst the strings are arranged parallel, their lengths are not reduced, and it allows the iron-work in particular and the construction in general to be simpler and of less weight. It also does away with the necessity of widening the front of the case. The action is withdrawn from the bass side, leaving the keys and "damper action" in position. A Grand, 8 feet in length, constructed on the same principle. A Piccolo Pianoforte (bichord, with semi-oblique strings). This action was invented by the late R. Wornum, and patented in 1826, and its principles are universally adopted in the best mechanisms.

CLASS 14.—MEDICINE, HYGIENE, AND PUBLIC RELIEF.

Appliances, instruments, and apparatus requisite for anatomical and histological works.

Plastic anatomical models.

Instruments of medical research.

Apparatus and instruments for dressing wounds and for simple surgery, general and local; anæsthetic apparatus.

Surgical instruments grouped according to their purposes: instruments for amputations, resection. Special instruments, obstetrics, ovariectomy, urinary channels, ophthalmology, dentistry, &c.; electro-therapeutic apparatus.

Apparatus for plastic and mechanical prosthesis, orthopædic apparatus.

Trusses.

Apparatus for restoring persons apparently drowned or suffocated.

Baths and hydro-therapeutic apparatus; gymnastical apparatus for medical and hygienic purposes.

Plans and models of hospitals, various asylums, houses of refuge, poor-houses, lunatic asylums. Arrangements and furniture of such establishments. Various apparatus for infirm persons, invalids, and lunatics. Accessory objects for the medical, surgical, and pharmaceutical services in hospitals or infirmaries.

Chests and cases of instruments and medicines for military and naval surgeons. Means and apparatus for succouring the wounded on battle fields. Civil and military ambulances.

Appliances, instruments, apparatus, and all things requisite for veterinary surgery.

Allen, Thomas; Metallic Tubular Bedstead Manufacturer and Inventor; 12, *St. Augustine's Parade, Bristol*.

Patent Hospital Bedstead, with portable bed-rest. Patent Child's Cot, with sides to open, movable tray for food, toys, &c. Patent Asylum Bedstead. Patent Bedstead for general use. Models and Details of Bedsteads.

Gabriel, Messrs. ; 72, Ludgate Hill, City, and, 23, Bishop's Road, Bayswater, London.

Improvements in Artificial Teeth.

Gray, Joseph, & Co. ; Surgical Instrument Makers ; Truss Works, New George St., Moor, Sheffield.

Surgical, Dental, and Veterinary Instruments, Trusses, Enema Syringes, Magneto-Electric Machines, &c.

Greenway, Henry ; Surgeon and Inventor ; Plymouth.

Drawings, description, and model of Mr. Greenway's method of Hospital Construction. This plan consists of a substantial building containing a smaller one, the side and end spaces between the two forming corridors. The inner building is made of glass (*toughened*, if procurable), or enamelled sheet-iron and glass, fixed in iron framework, and is subdivided so as to form two rows of compartments, each compartment having an entrance from the corridor.

Hamilton, William ; Manufacturer of Invalid Couches, Chairs, &c. ; 45 and 46, Ship St., Brighton.

Grasshopper Couches, with patent screw, constructed so that the back and knees of an invalid can be elevated or depressed to any angle.

Harris, George Henry ; Engineer and Machinist ; Bristol St., Birmingham.

Patent Recumbent Couch. Patent Reading Easel on castors, with lamp, table, and reading desk. (*See also Class 27.*)

Jamieson, W. & J. ; Inventors and Manufacturers of Dental Materials ; 10, Broad St., Golden Square, London.

Stoppings for teeth, manufactured from gold, tin, copper, zinc, and various alloys. Instruments and appliances.

Lemale, T., & Co. ; Manufacturers and Inventors of Mineral Teeth and Dental Articles ; 53, Haymarket, London.

Mineral Teeth and Dental Materials.

Leslie & Co., Limited ; Wholesale Manufacturing Druggists and Inventors ; Bond Court House, Walbrook, London ; Works, Greenwich, near London.

Patent Pliable Tape Plaisters for Surgical and Hospital use. Almodized Cod Liver Oil, and Castor Oil.

Longdon, F., & Co. ; Inventors and Manufacturers of Surgical Elastic Bandages ; Derby. Works, Agard Street Mills, Derby.

Surgical Elastic Accouchment Belts, Stockings, Knee Caps, Anklets, &c.

Mather, William ; Manufacturing Druggist ; Farringdon Road, London. Works, Hulme, Manchester.

Infants' Feeding Bottles, Medical Plaisters, Corn Plaisters, Court Plaisters, Marking Inks.

Mayer and Meltzer; Surgical Instrument Makers and Cutlers, Inventors; 71, *Great Portland St., London.*

All kinds of Surgical Instruments; New Patent Medical Batteries; Pocket Knives, Scissors and Razors. Artificial Arms, Legs. Surgical Appliances. New Army Surgeon's Bag.

Porter, Surgeon-Major Joshua Henry; Army Medical Department, Inventor; *Assistant Professor of Military Surgery, Royal Victoria Hospital, Netley, Southampton.*

Model of a Passenger Railway Luggage Van (London and South-western Railway), representing a method of carrying sick or wounded in ships' hammocks, and Messrs. Seydel & Co.'s Twine Hammocks. Model of Hill Dhooly for the carriage of sick or wounded in a recumbent position in mountainous districts. Model of a Bed and Stretcher for the after treatment of excision of the head of the femur. Telegraph Wire extemporised for battle field splints, adapted with pads made from articles of clothing, &c. "The Surgeon's Pocket Book," being an essay on the treatment of wounded in war.

Rein, Frederick Chas., & Son; Manufacturers and Inventors of Acoustic, Surgical, and Mechanical Instruments; 108, *Strand, London.*

Acoustic, Surgical, and Veterinary Instruments; Respirators; Reservoir Enemas; Eye Fountains and Douches; Syphons and Breast Pumps; Bougies and Catheters; Stethoscopes; Medical Inhalers; Instruments for deformities; Anatomical Belts, Stockings, and Bandages; Trusses; Crutches; Arm Slings; Magneto-electric Machines for nervous diseases; Elastic appliances for surgical purposes; Speaking Tubes and Trumpets; Patent Acoustical contrivances for Churches and Public Buildings; Anti-Acoustic Protector.

Rein, Mrs. Frederick Charles; Manufacturer of Surgical Appliances; 108, *Strand, London.*

Surgical Bandages, Appliances, Anatomical Belts, Artificial Breasts, Elastic stockings for varicose veins. Trusses of all description. Bandages and other appliances for surgical purposes.

Robinson & Sons; Manufacturers of Lint, Carded Cotton Wools and Bandages; *Wheat Bridge Mills, New Brompton, near Chesterfield.*

Surgeons' Lints, Carded Cotton Wools and Roll Bandages. Speciality No. 00·0 and 1 Surgeons' Cotton Lint, pure, and tears easily across the fabric, used at Guy's, St. Bartholomew's, &c., London; at the Royal Infirmary, Edinburgh, and all the largest British Hospitals.

CLASS 15.—MATHEMATICAL AND PHILOSOPHICAL INSTRUMENTS.

Apparatus and instruments used for mathematical purposes.

Apparatus and instruments illustrating practical geometry, land-surveying, topography and geodesy; compasses, calculating machines, levels, mariner's compasses, barometers, &c.

Apparatus and instruments for measurement: verniers, micrometric screws, dividing machines, &c.; scales for scientific uses.

Optical instruments. Astronomical instruments. Physical and meteorological instruments, &c. Instruments and apparatus requisite for laboratories and observatories.

Weights and measures of various countries. Coins and medals.

Bell, Alex. Graham; Inventor; 115, *Cannon Street, London.*

Articulating or speaking Telephones, with bell-calls and other telephonic apparatus.

Boyd, —; 236, *Rue de Rivoli, Paris.*

Scientific Apparatus.

Cetti, Ed., & Co.; Philosophical Instrument Manufacturers and Inventors; 11 and 31, *Brooke St., Holborn, London.*

Barometers, Thermometers, Water Analysis, Gas Analysis, Urea testing, Mercurial Pump, and other Philosophical Apparatus.

Crouch, Henry; 66, *Barbican, London, E.C.*

Microscopes, Objectives, Accessory Apparatus, and General Optical Instruments.

Dallmeyer, John Henry; Manufacturing Optician and Inventor; 19, *Bloomsbury St., London.*

An eight-foot Astronomical Telescope, mounted on a new form of Equatorial Stand, the special features of which are stability, universality (i.e., suitable for any latitude), and convenience for use with or without the spectroscope. The motions and clamping in right ascensions and declination, as well as the reading of the declination circle, are effected by the observer at the eye-end of the telescope, &c. &c. Smaller Astronomical Telescopes, equatorially and otherwise mounted. Transit Instruments and Spectroscope. Terrestrial Telescopes, Naval, Military, Reconnoitring and Tourist Glasses. Microscopes of several descriptions, including Object Glasses of the highest powers, both Dry and Immersion Lenses. A new double combination Portrait Lens. The "Rapid" and "Wide Angle" Rectilinear Lenses. A single combination Lens (a cemented triplet) for Landscape Photography. A new double combination Objective for the Magic Lantern, specially constructed for the exhibition of Diagrams for Science, Lectures, &c. Cameras and apparatus of special design for portraits, landscapes, and copying.

Darton, F., & Co. ; Scientific Instrument Makers and Inventors ; 72, St. John St., West Smithfield, London.

Chemical Spectroscopes for use in Laboratories, with single prism and double prism. A Microspectroscope. A cheap form of self-acting Electric Lamp, with reflector. A Spectrum Apparatus with Electric Lantern, in case, for showing spectra of metals on a screen. Improved Batteries and Coils for medical purposes. Air Pumps, different forms. Aneroid Barometers (watch size) with altitude scales for height of mountains.

Dollond & Co. ; Opticians ; 1, Ludgate Hill, London.
(*Agents in Paris, Quinet and Richard, 15, Boulevard St. Martin.*)

Astronomical, Naval, and Military Telescopes. Sextants. Theodolites, Levels, Barometers, Microscopes, Mathematical and other instruments.

Grubb, Howard, FELLOW ROYAL ASTRONOMICAL SOCIETY ; Manufacturing Optician and Inventor ; Astronomical Works, Rathmines, Dublin.

Eight and a half-inch equatorial Telescope of the same general form as those supplied to the principal British and German Observatories. Large Automatic Spectroscope. Smaller Spectroscopic Instruments. Photographs of Instruments already completed and in progress.

Hedley, F. H. ; Inventor ; Marrianengasse, 32, Vienna.

A Reckoning Machine for performing the four rules of arithmetic, viz., addition, subtraction, multiplication, and division.

Horne & Thornthwaite ; Opticians ; 416, Strand, London.

Reflecting Telescope with silvered glass Speculum twelve and a half inches in diameter, mounted on a new form of Berthon's equatorial stand of which the special features are, first—the double counterpoises ensuring perfect balance in all positions ; and secondly—the facility of following celestial objects on and near the Pole throughout an entire revolution. Crystals of Iodo-Sulphate of Quinine, called Artificial Tourmalines, for use with Polarizing Instruments. Set of un-annealed glasses for the Polariscope.

Légé, A., & Co. ; Clock and Scientific Instrument Makers ; 20, Cross St., Hatton Garden.

Sir William Thomson's Universal Tide calculating Machine. The components of the tide of a place having been found by the method of harmonic analysis, they are reproduced upon the Instrument and by means of a chain, one end of which, having

an ink bottle affixed to it, describes as the result upon paper a curve identical to that which the Tide-Gauge of the place registers. Sir Wm. Thomson's Maréographe or Tide-Gauge, which registers the tide with perfect accuracy: the tide is marked upon endless paper, the hours are marked automatically, no lines being traced beforehand, and the heights according to scale.

Negretti & Zambra; Meteorological Instrument Makers and Opticians, Inventors; *Holborn Viaduct, 45, Cornhill, and 122, Regent St., London.*

Self-recording Meteorological Instruments. Standard Observatory, Marine (Government and Admiral Fitzroy's) Aneroid and Life Boat Station Barometers for Marine and Mining purposes, and for measuring Altitudes. Standard self-registering Maximum and Mercurial Minimum (patented) and General Thermometers. Hygrometers, wet and dry bulb, Daniell's and Regnault's, Anemometers. Clinical Thermometers. Self-recording Thermometer for Deep Sea Soundings and for Atmospheric purposes (patented). Miller's pattern deep sea Thermometer with protected bulb invented by Exhibitors; Theodolites, Levels, Sextants, Microscopes, Drawing Instruments, &c. Glass Hydrometer (patent) with strengthening rod to prevent breakage.

Pillischer, Moritz; Optician. Inventor and Maker of Scientific Instruments; 88, *New Bond St., London.*

Microscopes of various improved constructions, with their accessory apparatus and appliances. Optical, Mathematical, Philosophical, Meteorological, and Surveying Instruments. Barometograph for the use of the Royal Commission. (See also Class 27.)

Ross & Co.; Manufacturing Opticians, Inventors; 164, *New Bond St., London.*

Microscopes, Telescopes, Photographic Lenses, and Cameras.

Ross, Thomas, & Co.; Manufacturing Opticians; 7, *Wigmore St., London.*

Astronomical, Military, Naval, and Sporting Telescopes.

Swift, James; Manufacturing Optician, Inventor; 43, *University St., Tottenham Court Road, London.*

New presentation Binocular Microscope, fitted with every known improvement for facilitating manipulation. Novel construction of Concentric Stage Microscope in various sizes, all the working parts being compensated for wear and tear. Travelling Microscope, celebrated for its compactness and great steadiness under high magnifying power. New College Students' Microscope on an entirely novel construction, combining efficiency with reduction of cost. New Universal Sub-stage Appliance superseding the use of all accessory understage apparatus. Popular Achromatic Condenser, a substitute for most general understage apparatus. Novel Microscope Lamp

for producing either ordinary or homogeneous light. Novel construction of Microspectroscope with comparison spectra. Portable Pocket Microscope Lamp.

Thomas, Antoine E.; Inventor; *The Butts, Brentford, Middlesex.*

An Improved Kaleidoscope, so constructed as to show objects by transmitted as well as by reflected light: thus opaque substances, such as gold, silver, pearl, &c. may be used as well as transparent objects.

Tisley, S. C., & Co.; Manufacturing Opticians and Inventors; *172, Brompton Road, London.*

Tisley's Harmonograph for drawing the curves of harmonic vibrations, sometimes called Lissajous' or Meldés curves.

CLASS 16.—MAPS, AND GEOGRAPHICAL AND COSMOGRAPHICAL APPARATUS.

Topographical, geographical, geological, hydrographical, and astronomical maps, atlases, &c.

Physical maps of every kind. Plans in relief.

Terrestrial and celestial globes and spheres. Statistical works and tables. Tables and ephemerides for the use of astronomers and sailors.

Bartholomew, John; Geographical Establishment; *Chambers St., Edinburgh.*

Maps, Plans of Towns, School Atlases, engraved and printed in colours.

Johnston, W. & A. K.; Geographers, Engravers, and Printers; *4, St. Andrew Square, Edinburgh, and 18, Paternoster Row, London. (Agents in Paris, C. Delagrave et Cie., 19, Rue Soufflot.)*

Maps and Educational Illustrations. Atlases of all sizes. Terrestrial and Celestial Globes.

Kips, John Joseph; *14, Moore St., Brompton, London.*

New Map of the World in two Hemispheres, on a large scale (5½ feet by 11 feet) corrected to the latest discoveries. The margins of the map are occupied by flags of various nations, Mercator's projection and altitudes, comparative heights of mountains and lengths of rivers, &c. &c. Adopted in the London School Board Schools.

Leighton, John, F.S.A.; Artist and Inventor; *12, Ormonde Terrace, Regent's Park, London.*

Maps of London, Paris, and Vienna, hexagonally indexed for the use of municipal government Cab fares, and for the general recognition of spots, showing the comparative sizes of the cities, &c., &c.

Philip, George, & Son; Geographical and Educational Publishers; 32, *Fleet St., London. Works, Caxton Buildings, South John Street, Liverpool.*

Atlases and Maps for office, library, and general use. Educational Maps. Wall Maps for schools. Outline and Blank Maps. Betts' Portable Globe. Geographical Class Books. Series of Reading Books and other Educational Text Books. Betts' Educational Games. Dissected Maps, &c., &c.

Stanford, Edward; Map Publisher; 55, *Charing Cross, and 13 and 14, Long Acre, London.*

Library Maps, School Maps, &c. Specimens of Engraving and Lithography as applied to Maps.

THIRD GROUP.

FURNITURE AND ACCESSORIES.

CLASS 17.—ALL KINDS OF FURNITURE, CHEAP AND COSTLY.

Sideboards, book cases, tables, dressing tables, beds, sofas, couches, billiard tables, &c.

Barnard, Bradly; Manufacturing Upholsterer and Inventor; 107, *St. Paul's Road, Highbury, London.*

Patent folding Hammock, Bassinettes, with framework of fine enamelled and polished woods. Patent Invalid Table. Folding Camp Table. Folding Hat and Cloak Stand.

Bertram & Son; Upholsterers, Cabinetmakers, Carvers, and Decorators; 100 and 101, *Dean St., Soho, London.*

Chimney Piece and Mirror, after Chippendale.

Brown Brothers (late William Scott Morton & Co.); Art Furniture Manufacturers and Designers; *Caledonian Crescent, Edinburgh.*

Cabinet Furniture. Decorated Leather Work for walls.

Capel, Henry; Art Furniture Manufacturer; 26, *Great Titchfield St., London.*

Art Pianoforte, with newly invented sounding cove, specially designed by Brightwen Binyon, Esq. (the interior by John Brinsmead and Sons). Music Whatnot and Stool to match.

Garrett, Rhoda & Agnes; House Decorators and Cabinet Makers; 2, *Gower St., Bedford Square, London.*

The Furniture and Fittings of a room.

Gillow & Co.; Decorators, Cabinetmakers, and Designers, 176, *Oxford St., London, and at Lancaster.*

The interior Decoration and Furniture for a Mansion built in the English style of the early part of the 17th century, the principal rooms being: Dining Room, of Black Inlaid Walnut, with Tapestries executed at the Royal Windsor Works, and representing Eight Scenes from Shakespeare's Play, "The Merry Wives of Windsor," including in the centre of Mantelpiece a portrait of Her Majesty Queen Victoria worked in Tapestry by special permission from a painting by Baron von Angeli; Drawing Room, in the "Adams" style, the walls of decorated satin, with panelled and other enrichments, the furniture being of Satinwood, Thuya, and carved Boxwood; Morning Room, of "Modern English" style in Rosewood, with Japanese panels of Lac upon Ivory; Bedrooms, in the 18th century style, the furniture of Mahogany and Satinwood, inlaid, and in the modern English style executed in solid Walnut and inlaid Oak. The whole forming the internal arrangements for the Pavilion

of H.R.H. the Prince of Wales, President of the Royal Commissioners, manufactured by Messrs. Gillow at their works, London and Lancaster, from the designs of Messrs. H. C. J. Henry and J. W. Hay.

For the list of manufacturers contributing works which have been executed from the designs of H. C. J. Henry and J. W. Hay, see page xix.

Green, Charles ; Sculptor, Designer, Modeller, Inventor ;
2, *Bank St., Sheffield.*

Cabinet in Ebony and Bronze, with mahogany internal fittings, representing the Four Seasons, the Four Elements, the Twelve Signs of the Zodiac and the Globe. A Shakesperian Cabinet in Ebony and Bronze, representing the Seven Ages of Man. Door Porters, Door Knockers, Inkstands, Paper-weights, &c., in Bronze.

Hems, Harry ; Architectural and Ecclesiastical Sculptor and Maker of Church Furniture ; 83, *Paris St., Exeter.*

A Statue in English Alabaster : subject, Jesus and the Little One. A carved English Oak Coffin made entirely from old beams which formerly were part of Salisbury Cathedral, England, built A.D. 1216 : the oak is therefore upwards of 660 years old. The Chest is illustrative of the perpendicular style of English Gothic Architecture.

Holmes, W. M. ; Cabinetmaker, Wood Carver, and Designer ; 101, *Dean St., Soho, London.*

Mahogany China Cabinet. Carved Wood Glass Frame. Carved Wood Bracket. Carved Wood Branches for Wax Lights.

Howard & Sons ; 25, 26, and 27, *Berners St., Oxford St., and Cleveland Works, Saint Marylebone, London.*
(*Agents in Paris, Greder & Henon, 19, Passage Saulnier.*)

Fittings of Room in Old English style, with fireplace and stained glass windows. Chimney-piece made by machinery in solid wood inlaid by patent process. Patent Parquet Carpet of solid wood. Cabinet. Two Tables. Three pieces of Wall Furniture. Two Wardrobes, Dressing Table, and Washstand made by machinery.

Jackson & Graham ; Cabinetmakers and Upholsterers ; 30 to 38, *Oxford St., London.*

A Cabinet of Boxwood inlaid with other woods and ivory. A Chimney-piece to correspond, with glass over. A Clock and pair of Candelabra to correspond. An Ebony and Ivory Cabinet. A Sandal Wood Cabinet inlaid with Ivory and Red wood. A high Oak Chimney-piece. Various smaller objects. Carpets, Curtain Fabrics, Paper-hangings.

Jacoby, Julius ; Artistic Furniture Manufacturer and General Cabinetmaker ; 52, *Regent St., London.*

Carved oak Sideboard, Cabinets, Table, Altar Chair, and other small objects.

Johnstone, Jeanes, & Co.; Cabinetmakers, Upholsterers, and Decorators; 67, *New Bond Street, Factory, Fitzroy Works, Clipstone Street, London.*

An Oak Chimney-piece enriched with brown oak and ebony mouldings, in the style of the Renaissance. A Walnut Buffet in the Old English style with stamped leather in back. A patent circular expanding Dining Table. Two Chairs. A Satinwood Cabinet in the Adams style, enriched with inlay, &c. A Boudoir Table inlaid.

Jones, H. Bence ; 9, *New Burlington Street, London.*
A Picture Screen.

Lamb, James ; Cabinetmaker, Upholsterer, and Decorator ; 16, *John Dalton St., Manchester. Works, Castlefield Knott Mill, Manchester.*
Decorative Furniture.

Lascelles, William Henry ; Builder, Manufacturer, Inventor ; 121, *Bunhill Row, London.*

Furniture, designed in the "Old English" style, principally by R. Norman Shaw, Esq., R.A., and decorated by J. A. Heaton. Its leading features are simplicity of form, durability of material, and soundness of construction, together with such decorative treatment as will best harmonise with the appointments of a well furnished house. The floor on which the furniture stands is doweled on a patent principle, by which the boards are connected with diamond-shaped dowels in a simpler and sounder manner than by the ordinary system of straight tongues or round dowels ; the wood being punctured by the machine during the process of conversion much time is saved in laying, and in place of nails screws at intervals are driven into the floor with plugs inserted over their heads. (*See also Classes 66 and 85.*)

The London Society for promoting Christianity amongst the Jews ; 16, *Lincoln's Inn Fields, London.*

Model of the Jewish Tabernacle with hangings and furniture.

Lucraft, G. S., & Son ; Cabinet Manufacturers and Upholsterers ; 79, *City Road, and Tabernacle Row, London. Factory, Park Place, Coney Street, City Road, London.*

Cabinet Furniture :—Chairs, Book Cases, China Shelves, Brackets, &c., after designs by De La Fosse, Chippendale, and Sheraton.

McIntosh, Alexander H. ; Manufacturing Upholsterer ; *Rose St., Kirkcaldy.*

Carved Oak Sideboard.

Marah, Jones, & Cribb ; Cabinet Manufacturers, Upholsterers, and Decorators ; *Boar Lane, Leeds.*

Richly carved Oak Sideboard, with ebony moulding after the jacobean style with framed panelling and Pilasters forming the end of a Dining-room.

Mellier, Charles, & Co. ; Upholsterers, Decorators, Cabinet-makers. Spécialité, Antique Furniture Restorers ; 48, 49, and 50, *Margaret St., Cavendish Square, London.* Factory, 57, *Wells St., Oxford St., London.*

A pair of Louis XIV. Buhl Cabinets. A Louis XVI. Cabinet with brass mounts and centre panel in marqueterie. A Walnut-carved Renaissance Cabinet. A Louis XVI. Toilet Table, ornamented with lace curtains, and with mirror supported by carved wood and gilt figures of cupids. Two panels in carved walnut wood, Louis XIV., and one window, Louis XIV. style. One Louis XVI. carved and gilt Arm Chair, covered in silk. A Walnut-carved Louis XV. "Chaise Longue," covered in silk. Two Satinwood Tables, painted with flowers, "Adam" style.

Pereira, John, & Son ; Cabinetmakers, Inventors ; 16, Welington Road, Barnsbury, London.

The only extending dining table of its kind, so constructed that it requires no extra legs to support the centre, that being its strongest part, and is quite as strong as those of four legs, with the advantage of not having the legs in the way of those sitting at the table.

Phillips, Albert ; Excelsior Works, Rea Street South, Birmingham.

Brass Bedsteads.

Shoolbred, James, & Co. ; Cabinetmakers and Decorators, Inventors, Patentees, and Manufacturers of Parquet Flooring ; Tottenham House, Tottenham Court Road, London.

A Block divided into three compartments representing a Library in walnut and rosewood with recessed window, wall and ceiling decorations, parquet flooring, &c. A Dining Room in Oak showing fireplace, sideboard, &c., with wall and ceiling decorations and parquet flooring. Bedroom Furniture in Teak and inlaid woods, with wall and ceiling decorations and parquet flooring. The furniture and decoration of the interior of a house built by Messrs. Doulton to the north of the Royal Commission Offices : the ground floor represents a small drawing room in the English style, with Satinwood furniture, panelled silk walls, stained glass, &c. The first floor represents a business or board room of a high class. The whole carried out from the designs of H. W. Batley, London.

Smee, Wm. A. & S. ; Cabinetmakers and Upholsterers ; 6, Finsbury Pavement, and 34, Little Moorfields, London. Factory, *Finsbury Works, Ball's Pond, Middlesex.*

Cabinet Furniture.

Spiers & Son ; Inventors and Manufacturers ; 102 and 103, High Street, and 1, 2, and 3, Oriel Street, Oxford.

Oxford Cyclopean Washstands.

Stevens & Sons; Billiard Table Makers; *Villiers St., Charing Cross, London; Works, Clapham Junction, London.*

Billiard Table and Fittings, adapted to play the French and English Game.

Trollope, George, & Sons; Architectural Decorators, Furnishers, and Designers; *Halkin St. West, Belgrave Square, London.*

Architectural Joinery. Wall Decorations. Furniture.

Turpin, Marie Firmin Charles; Parquet Flooring Manufacturer and Wood Carver; *22, Queen's Road, and Salem Gardens, Bayswater, London.*

Parquet Flooring for the decoration of floors. Wood Carvings, Plain and Carved Panellings for furniture and wall decoration.

Walker, Wm., & Sons; Cabinet Manufacturers; *119, Bunhill Row, London.*

Sideboard, Side-table, and two chairs, Anglo-Moorish style, made of English Brown Oak, relieved with Pear and Ebony, designed by R. Davey.

Watt, William; Cabinet Maker and Upholsterer; *21, Grafton Street, Gower Street, London.*

Drawing Room Furniture. The Butterfly Cabinet and Fireplace, sofa, centre table, music bookcase, coffee table, and two chairs, designed by E. W. Godwin, Esq., F.S.A. Decorations in yellow and gold designed and painted by J. A. McV. Whistler, Esq.

Waugh & Son; Cabinetmakers, Upholsterers, and Carpet Manufacturers; *3 and 4, Goodge St., and 65 and 66, Tottenham Court Road, London.*

An Oak Sideboard, with carved panels and mouldings, style early Italian; and a stuffed Back and Seat Chair en suite (*see also Class 21*).

Whitburn & Young; Xylographic Manufacturers and Decorators; *Milford, near Godalming, Surrey, and 4, Ludgate Circus Buildings, London.*

Artistic decoration on wood by a novel process, invented and patented under the title "Xylography," by Thomas Whitburn, in 1873, comprising Friezes, Panels, Dados, Chimney Pieces, Doors, and other decorative adjuncts. The process is also suitable for the ornamentation of Furniture.

Winfield, R. W., & Co.; Manufacturers and Inventors; *Cambridge St. Works and Rolling Mills, Birmingham.*

Brass and Copper Tubes for use in various manufacturing processes: Steam Shipbuilding, Locomotives, Condensing Apparatus. Fancy and Ornamental Tubes as used by Brass Founders, Gas Chandelier-makers and others. Brass Sheets, Wire for Pins, Screws, and Rivets. Copper Wire for Telegraphs; Cables, and other uses. Copper Sheets. Tin and Iron Tube. Gas Chandeliers. Pendants. Lamps. Brackets.

Pillars. Standards. Gas Fittings and Gas Apparatus of various kinds for heating and lighting. Metallic Bedsteads. Cots, Chairs, Couches, and Metallic Furniture generally. Ships' Cots and Invalid Cots for marine use. General Brass goods for Builders, Contractors, House furnishing and decoration. Spirit Varnishes. Mediaeval and Ecclesiastical Metal Work in wrought brass, copper, and iron.

CLASS 18.—UPHOLSTERERS' AND DECORATORS' WORK.

Bed furniture, stuffed chairs, canopies, curtains, tapestry, and other hangings.

Decorative furniture made of costly stones and substances. Composition ornaments and objects moulded in plaster, carton-pierre, papier-maché, &c. Frames. Paintings and decorations for churches.

Cairns, Peter; Carver and Designer; 4, *Livingston Place, Portobello near Edinburgh.*

A Fountain, carved in box-wood, with sculptured groups representing classical subjects.

Camm Bros.; Artists in Stained Glass and Decorators; 41, *Frederick St., Birmingham, and High St., Smethwick, near Birmingham.*

A Majolica Panel, subject, the Signing of Magna Charta, designed by T. W. Camm. A Majolica Panel, subject, Preaching of St. Augustine, designed by P. H. Newman. Designs for decoration of Drawing, Dining, and Billiard Rooms, Boudoir, Hall, and Staircase of a Mansion. (*See also Class 19.*)

Collinson & Lock; Cabinet Makers and Upholsterers; 109, *Fleet St., London. Works, Pear Tree Court, Clerkenwell, London.*

Art Cabinet Furniture. Upholsterer's Work; Decorator's Work; Textile Fabrics for Furniture. (*See also Class 66.*)

Cooper, H. & J.; Upholsterers, Cabinetmakers, Decorators, and Designers; 8 and 9, *Great Pulteney St., Golden Square. Works, Princes St., Soho, London.*

A Cabinet in Rosewood, the subject panels painted in oil by Lewis F. Day, illustrative of Tennyson's "Princess." Chair in ebonized wood, covered in velvet. Lamp Stand or Table in black walnut. A Small Chair in ebonized wood after Ashantee model. A Pair of Curtains of olive silk velvet with hand embroidery in silk. Wall Tapestry of silk and wool. Dado Panelling in black walnut. Framing for Frieze of Room, with painting on linoleum.

Ebbutt, Alfred C.; Cabinetmaker and Upholsterer; *opposite the Town Hall, Croydon, Surrey.*

Specimens of Cabinet Furniture and Upholstery.

Foley, Arthur ; Cabinet Manufacturer and Inventor ; *Fisher-ton Machine Cabinet Works, Salisbury.*

Old English ebonized Wing Wardrobe, with original decorative process ; a portion of a bedroom suite (No. 21.) Patent Combined Bureau Secretary Bookcase in light oak, with Ilex wood in panel ; designated "Collegian." Patent Combined Chefflonere Secretary Bookcase, with gun case at the end in walnut wood, with "Yacca" wood panels ; designated "Yeoman." Patent Cabinet Secretary, in satinwood and holly. The Salisbury Patent Desk.

Gregory & Co. Cabinetmakers and Upholsterers ; 212 and 214, *Regent St., London. Works, Dufour's Place, Broad St., Golden Square, London.*

Cabinet Furniture for Drawing-room, with wood Mantelpiece and Decoration over.

Hall, Thomas ; House Decorator and Designer ; 8, *George St., Edinburgh.*

Specimen of Interior Decoration of a Dining Room in the time or period of Queen Marie Stuart, consisting of Decorated Wall Panelling of Oak. A centre Buffet and two Chairs of Oak. Frieze of painted cloth.

Heaton, John Aldam ; Artist-Decorator and Inventor ; 29, *Bloomsbury Square, London, and of Bradford, Yorkshire.*

Decorative Panelling for the Walls of a Room, or other like purpose. The special character of this decoration is produced by being put upon a raised surface of composition or "gesso," which is afterwards gilded and painted in transparent oil colours. (Exhibits also in Class 36.)

Holland & Sons ; Cabinet Makers, Upholsterers, and Decorators ; 23, *Mount St., Grosvenor Square, London. Factories Ranelagh Works, Ebury Street, and Gillingham Street, Pimlico, London.*

Furniture and accessories for a Bedroom, executed in Satinwood and richly ornamented after designs by Adams.

Jackson, George, & Sons ; Carton Pierre, Papier Maché, and Fibrous Plaster Manufacturers and Designers ; 49, *Rathbone Place, London.*

Wall and Ceiling Decorations in Carton Pierre and Papier Maché. Decorative Furniture in Carton Pierre and Papier Maché. Carton Pierre Decorations for Walls and Ceilings of Rooms for the Royal Commission.

Jeffrey & Co. ; Paper Stainers ; 64, *Essex Road, Islington, London.*

Screen, mounted with Specimens of Embossed Imitation Leather, embossed and painted. (See also Class 22.)

CATALOGUE.—CLASS 18.

Jeffreys, Charles; Show Case Manufacturer and Inventor ;
103, *Hatton Garden, London*; *Works, Robin Hood
Yard, Leather Lane, Holborn, London.*

Air-tight Plate Glass Show Cases made on improved principles. Watchmakers' and Jewellers' bronzed Window Fittings. Stands for the display of Jewellery, Works of Art, &c. Plate Glass Show Stands with bevelled and polished edges.

Newman, Mrs. Charlotte; Designer; 329, *Euston Road, London.*

Two Decorative Panels for Furniture, designed and painted by Charlotte Newman.

Ogden, Henry, & Son; Manufacturers of Artistic Furniture ;
126, *Deansgate, Manchester.*

Rosewood Cabinet. Inlaid Satinwood Pianoforte.

Oppenheim, William; 75, *Newman St., Oxford St., London.*
(*Agent in Paris, H. Hermann, 21, Rue de l'Echiquier.*)

An Ebony Cabinet, enriched with Painted Dresden China Plaques, set in Chased Ormolu Mounts.

The Patent Show Tablet Co.; Show Tablet Manufacturers and Inventors; *Charlotte Street, Shoreditch, London.*
Show Tablets.

Peyton & Peyton; Metallic Bedstead Manufacturers; *Bordesley Works, Birmingham.*

Metallic Bedsteads, viz., Iron, japanned and decorated; Iron and brass combined; Brass only.

Pitman & Cuthbertson; Church and House Decorators;
30 and 31, *Newgate St., London.*

Door and Wall Decoration. Two "London Painted Tapestry" Curtains in encaustic colours. Two occasional Chairs and Table. (*See also Class 19.*)

Powell, James, & Sons; Glass Manufacturers; *White Friars Glass Works, London.*

Stained and painted Glass Mosaic for Walls. Mosaic for Pavements. Painting in "Opus Sectile" or Opaque Glass for Wall Decoration. (*See also Class 19.*)

Rogers, George Alfred; Wood Carver and Designer; 29,
Maddox St., Regent St., London.

Carved Wood Chimney-piece; brackets, frames, &c., chiefly after the manner of Grinling Gibbons.

Sage, Frederick; Shop-front Builder, Maker, and Designer ;
80 to 84, *Gray's Inn Road, London.*

Elegant Show Cases made of hard woods, with light frames and air-tight opening doors, glazed with plate-glass and fitted with glass shelves. Over one hundred have been supplied to exhibitors in the British Section.

Simpson, W. B., & Sons; Decorators, Art Tile Painters, Stained Glass Painters, and Mosaic Workers; 100, *St. Martin's Lane, London.*

Decorative Chimney-piece. Art Tile-Frieze, and Panels. Painted Tapestry and Wall Papers.

Ward, John; Manufacturer and Inventor of Invalid Chairs and Carriages; *Saville House, 5 and 6, Leicester Square, London.*

Self-acting and Recumbent Chairs for in-door use. (*See also Class 62.*)

Westlake, N. H. J., F.S.A.; *Goodyears, Hendon, near London.*

An Altarpiece; subject, "The Resurrection." Ecclesiastical Decoration.

Williams, G. A., & Son; Inventors and Manufacturers of Window Blinds; 21, *Queen's Road, Bayswater, London.*

Outside Sun-blinds and Inside Blinds of various descriptions, combining originality of design, superiority of workmanship, economy, and simplicity.

CLASS 19.—CRYSTAL, GLASS, AND STAINED GLASS.

Drinking glasses of crystal, cut glass, plated and mounted crystal, &c. Table glass. Common glass, and bottles.

Window and mirror glass. Cast, enamelled, crackled, frosted, and tempered glass.

Glass, crystals for optical purposes, ornamental glass, &c.

Stained glass. Mirrors, looking glasses, &c.

The Aire and Calder Glass Bottle Co. (Edgar Breffit & Co.); Glass Bottle Manufacturers, Patent Machine-made Case Makers, and Inventors; 83, *Upper Thames St., London*; *Works, Castleford, Yorkshire.*

Glass Bottles of various shapes and colours with and without patent stoppers. Patent Aërated Water Bottles. Corks made by patent machinery. Edwards' Patent Cap and Valve Stoppered Aërated Water Bottles. Patent Machine-made Packing Cases. Stocker's Patent Capped Pomades, Sprinklers, Feeding Bottles, &c.

The Aurora Glass Company; Manufacturers, Patentees, and Inventors; 21, *Litchfield Street, Soho, London.*

Reproductions of ancient Egyptian, Phœnician, Roman, and Venetian Objects of Art in Glass.

Bagley, Wild, & Co.; Glass Bottle Manufacturers; *Great Northern Railway Goods Depôt, King's Cross, London, Knottingley Glass Works, Knottingley, Yorkshire, and at Glasgow, Scotland.*

Bottles of various colours, shapes, and sizes, combination, stoppered, ground stoppered, &c.

Camm Bros.; Artists in Stained Glass, and Decorators; 41, *Frederick Street, Birmingham, and High Street, Smethwick, near Birmingham.*

Stained Glass Windows:—Ecclesiastical subjects, "The Bridegroom and the Wise and Foolish Virgins." Renaissance Window, subject, "Our Lord blessing little children." Hall or Staircase Windows:—Subjects, "Midsummer Night's Dream," and "Arthurian Legends," all designed by T. W. Camm. An upper or Transom-Light Window, subject, "The Seasons," and two Curtain Lights, subjects, "Music, "Archery," and "Falconry." Door panel, subject "The Lord of Burleigh."

Constable, William Henry; Artist; *Stained Glass Works, The Avenue, Cambridge.*

Stained Glass Windows with Scripture subjects.

Fouracre (J. T.) & Watson; Glass Painters and Designers *Stonehouse, Plymouth, Devon.*

Example of Stained Glass, for domestic purposes.

Green, James, & Nephew; Glass Manufacturers and Designers; 107, *Queen Victoria St., London. Works, Boss Court, Upper Thames Street, London.*

Glass Ware of all kinds, both useful and ornamental. Table Glass, Glass Flower Stands, Chandeliers, Wall Lights and Decorations, Lustre Candlesticks, and Ormolu mounted Glass of all kinds. Terra Cotta made by the Torquay Terra-Cotta Co.

Hardman, John, & Co.; Mediæval Metal Workers and Stained Glass Painters; *Newhall Hill, Birmingham, and 13, King William, Street, Strand, London.*

Two Stained Glass Windows, of four lights each, style of XV. century English Architecture; subjects, the raising of the Widow's Son, St. Luke vii., 11 to 16. The Woman of Samaria at the Well, St. John iv. 9. (*See also Class 25.*)

Hodgetts, Richardson, & Son; Flint Glass Manufacturers and Inventors; *Wordsley Flint Glass Works, Stourbridge, Worcestershire.*

"Sculptured Glass," being basso-relievo subjects carved in white glass on a coloured background, comprising amongst others the following:—A large Vase, subject, "Hercules restoring Alceste to her husband." A pair of two-handled Vases, subjects "Venus." A pair of small Jars, subjects "Cupids and Panthers." A pair of two-handled vases, subjects, "Happy and Unhappy Childhood." A large Vase,

"Raising of Bacchus." A small Vase, "Innocence." A large two-handled Vase, a correct copy of the Portland Vase in the British Museum. "Patent Threaded Glass," consisting of Flower Vases, Jugs, &c., threaded with coloured rings on various coloured grounds. "Renaissance Dessert Service," consisting of tinted glass with various patterns. Stands for flowers, and specimens of all kinds of table glass.

Holt, Frank; Glass Stainer and Decorator; *St. John's, Warwick.*

Stained Glass Windows. (See also Class 11.)

Jenkinson, Alexander; Glass Manufacturer and Inventor; 10, *Prince's St., Edinburgh.*

Coloured Glass, after the old Venetian style; also cut and engraved Flint Glass, and Iridescent Glass.

Kilner Brothers; Glass Bottle Manufacturers; *Great Northern Goods Station, King's Cross, London; Works, Thornhill Lees, near Dewsbury, and Conisboro', near Rotherham, Yorkshire.*

Glass Bottles of various shapes, sizes, and colours, and other articles in glass.

Lavers, Barraud, & Westlake; Artists in Painted Windows, &c.; *Endell St., Bloomsbury.*

Two Grisaille Windows, representing the "Deposition from the Cross" and the "Entombment," to be placed in the crypt of St. Paul's Cathedral, London, from Cartoons, by N. H. J. Westlake, F.S.A. Three-light Window, "Adoration of the Lamb," replica of one erected at St. Chad's, Manchester. Cartoon by N. H. J. Westlake. Domestic work, for Hall of Sir H. Peek's mansion, subject "The Armada." Cartoon by W. C. Symons.

Millar, John, & Co.; Artists and Decorators on China and Glass; 2, *South St. Andrew St., Edinburgh, and 22, Buchanan St., Glasgow.*

Cut and engraved Table Crystal Glass of Edinburgh workmanship. Tea and Dessert Ware, &c., painted and decorated.

Osler, F. & C.; Manufacturers of Crystal Glass Chandeliers, Table and Ornamental Glass, &c.; 45, *Oxford St., London, and Broad St., Birmingham.*

Various articles in Crystal Glass.

Pitman & Cuthbertson; Church and House Decorators; 30 and 31, *Newgate St., London.*

Stained Glass Window, designed for an Entrance Hall. (See also Class 18.)

Powell, James, & Sons; Glass Manufacturers; *White Friars Glass Works, London.*

Table Glass, Fancy Glass. Chandeliers, Wall Lights, Mirrors. Sheet Glass. Chemical Glass. Stained and painted Glass. (See also Class 18.)

Simpson, W. B., & Sons; Decorators, Art-tile Painters, and Glass Painters; *St. Martin's Works, 100, St. Martin's Lane, London.*

• Examples of domestic Stained Glass.

Taylor, William George; Artist in Painted Glass; 4, *Berners St., Oxford St., London.*

Painted Glass: Four Panels, representing the Four Seasons. One Panel of Fruit and Birds. Two Panels of Dogs, "Suspense" and "The Sleeping Bloodhound," after Landseer. Church Window, subject, "The Madonna and Child," executed in Mediæval Style. Church Window, subjects, "The Nativity" and "Christ blessing Children," executed in the Mosaic Enamel Style.

Ward & Hughes; Glass Painters; 67, *Frith St., Soho, London.*

A four-light Painted Glass Church Window (memorial of the Scott family, for Braybourne Church, Kent).

Webb, Thomas, & Sons; Glass Manufacturers and Patentees of Alassontes and Iridescent Glass; *Stourbridge, and Charterhouse St., Holborn Circus, London.*

General assortment of all kinds of table crystal glass, coloured and decorated vases and fancy goods, including works of art and a variety of specialties; also chandeliers, jardinières, giron-doles, and new patented Iridescent Glass, &c., &c.

CLASS 20.—POTTERY.

Biscuit ware, hard and soft paste porcelains.

Fine earthenware with coloured glazing, &c. Earthenware biscuit. Terra-cotta. Enamelled lava. Bricks and tiles. Stone-ware.

Adams & Bromley; Manufacturers; *Victoria Works, Broad St., Hanley, Staffordshire.*

Jasper, Majolica, and Engraved Rockingham Ware:—Fountains, Large Lion, Flower-pots, Vases, Jugs, Bread Trays, Cheese Trays, Spittoons, Sardines, Match Stands, Dessert Ware, Flat Candlesticks, Tea Ware, Tête-à-Tête Sets, Flower Baskets, Fruit Dishes, Tripods, oval and square Jardinières, Garden Seats, Inkstands, Brackets, Butters, Small Ornaments, Egg Stands, Flower Troughs.

Allerton, Charles, & Sons; China and Earthenware Manufacturers; *Park Works, Longton, Staffordshire.* (*Agents in Paris, The Paris Earthenware, &c. Co., Limited, 40 and 42, Rue de Paradis Poissonnière.*)

All sorts of Earthenware China, consisting of sanitary, dinner, tea, and toilet ware. Suspensions of all kinds. Lustre ware of all kinds.

Bailey, W. & J. A.; Earthenware and Glass Manufacturers; *Alloa, Scotland.*

Earthenware Rockingham Teapots, Coffee-pots, and Filters; Caneware, Tortoise (or Majolica) Ware. Cut and engraved and pressed Table Glass, Gas Globes.

Bates, Walker, & Co.; Earthenware Manufacturers; *Dale Hall, Burslem, Staffordshire.*

Dinner, Dessert, Toilet, Tea, and Breakfast Ware; Sanitary Ware, Jugs, Teapots, and Kettles, Sign Boards, Letters, Porcelain Weights, Thermometer Scales, Goods for druggists, perfumers, photographers, ironmongers, stationers, &c., and for artists' use; Punch Bowls, Spirit Barrels, Garden Ware, Jet and Terra-Cotta Vases, &c., variously decorated with coloured dips, &c.; Patent Teapots, Kettles, Jugs, &c., showing the simplicity of the invention of our "automatic self-locking, self-adjusting covers," as applied to these articles; "Indestructible Ware," very hard and vitreous, for ship and hotel use.

The Brownhills Pottery Company; Earthenware and China Manufacturers; *Brownhills Works, Tunstall, Staffordshire.*

Dinner and Dessert, Tea and Toilet Ware; printed, enamelled, painted, and gilded Vases and Ornamental Goods; black glazed ware; Floor and Roof Tiles, Ridge Tiles, &c.

Brown-Westhead (T. C.), Moore, & Co.; Manufacturers of China and Earthenware; *Cauldon Place, Staffordshire Potteries, and Royal Victoria Works, Hanley.*

China and fine Earthenware in every variety of Table, Dessert, Tea, and Toilet Ware; Ornamental Goods in China, Parian, and Majolica; Sanitary Goods in great variety; Tiles, plain and ornamental, for floors, borders, mural decorations, flower boxes, names of streets, railway stations, &c.

The Campbell Brick and Tile Company; Manufacturers of Encaustic, Geometrical, and Majolica Tiles; *Stoke-upon-Trent.*

Encaustic and Geometrical Tiles for pavements of public edifices and private buildings. Glazed Encaustic Tiles for hearths and fire-places; Glazed Earthenware Tiles and Majolica Tiles for mural decorations; slabs of the above kinds of Tiles to show their application; Tesserae and Slabs of Mosaic made from same; Building Bricks, Ridges, Roofing Tiles, &c. (Exhibited in Messrs. Minton's space.)

Copeland, W. T., & Sons; Manufacturers of Porcelain, &c., and Inventors; 160, *New Bond St., London. Works, Stoke-upon-Trent, Staffordshire.*

Art Productions in Porcelain, Ceramic Statuary, &c.

Craven, Dunnill, & Co., Limited; Encaustic, Geometrical and Majolica Tile Manufacturers; *Jackfield Works, near Ironbridge, Shropshire. (Agents in Paris, Couissinier & Cie, 148, Faubourg St Denis.)*

Encaustic and Geometrical Flooring Tiles for Churches, Conservatories, Vestibules, Halls, Corridors, &c.; Majolica and

Glazed Tiles for hearths, fireplaces; Dados and ornamentation of interior and exterior walls of Buildings; Printed and Painted Art Tiles for Furniture, Grates and Pilasters; Enamelled Tiles for walls of Baths, Kitchens, Stables, &c. The two Fireplaces, completely fitted to exhibit Tiles, are made by the Coalbrookdale Company.

Daniell, A. B., & Son; Manufacturers of and Designers in China, Earthenware, and Table Glass; 46, *Wigmore St., London.*

Table Services of every description. Toilet Services. Ornamental China, and Objects of Art in ceramic manufacture. Majolica and Earthenware of every description. Table Glass, engraved, cut, and plain.

Doulton & Co.; Potters; *High St., Lambeth, London.*
(*Paris, 6, Rue de Paradis Poissonnière.*)

Fountain, in Doulton Ware, about six feet high, and six feet in diameter, in spiral form, representing 22 different Scripture subjects all relating to water, to be placed in the garden of H.R.H. the Prince of Wales' pavilion. Designed by George Tinworth, and executed by him at Exhibitors' manufactory. Large Centre Panel in terra-cotta, decorated with Doulton Ware, representing the Descent from the Cross. Four Side Panels in terra-cotta decorated with Doulton Ware, representing "The Infant Saviour in the arms of Simeon," "Gethsemane," "The Walk from Emmaus," "The Resurrection." Several Sculptured Heads from the antique in terra-cotta, set in Doulton Ware. The panels and heads are exhibited on the wall opposite the pavilion of H.R.H. the Prince of Wales, President of the Royal Commission. (*See also Class 66.*)

Doulton & Watts; Potters; *Lambeth Pottery, London.*
(*Paris, 6, Rue de Paradis Poissonnière.*)

Fine Art Stoneware (called also Doulton Ware). (*See also Class 66.*)

Doulton, Henry, & Co.; Potters; *High St., Lambeth, London; Works, Smethwick and Rowley Regis, Staffordshire; St. Helen's, Lancashire.* (*Paris, 6, Rue de Paradis Poissonnière.*)

• Terra-Cotta applied to fine art. Lambeth Faience. (*See also Class 66.*)

Edwards, John; White Granite Manufacturer; *King St., Fenton, Staffordshire.*

White Granite Tea, Dinner, Toilet, and Jug Services, white and ornamented. Semi-porcelain Tea, Dinner, Toilet, and Jug Services, white and ornamented.

Gardner, John, & Sons; Lamp Manufacturers, Inventors; 453 and 454, *Strand*; 3 and 4, *Duncannon Street, Strand, London.*

Earthenware, artistic blue printed Table Ware. Filters in English Wedgwood, Faience and Grès, on Major Crease's principle. (*Exhibit also in Classes 27 and 36.*)

Goode, Thomas, & Co.; Depôt for Minton's China; 19, *South Audley St., London.*

Etchings on China by Mr. William Goode. Porcelain and Majolica by Minton.

Green, James, and Nephew; Glass Manufacturers and Designers; 107, *Queen Victoria St., London. Works, Boss Court, Upper Thames Street, London.*

The terra-cotta productions of the "Torquay Terra-Cotta Co." (Exhibited in Class 19.)

Hope & Carter; Earthenware Manufacturers; *Fountain Place, Burslem, Staffordshire.*

Table, Tea, Dessert, and Toilet Ware, in earthenware, both decorated and plain. Vases, Teapots, and Jugs in Earthenware, decorated both in white and jet.

Howell, James, & Co.; Inventors and Producers; 5, 7, 9, and 11, *Regent St., and 10, Charles St., St. James's Square, London.* (*Agents in Paris, Bossange and Ballande, 15, Rue Paul-Lelong.*)

A series of Clocks and other objects in the early English, Queen Anne, and Jacobean styles, inlaid with panels and plaques of Faience, &c., showing the application of ceramic art for decorative purposes. Selected specimens of Art Pottery. A collection of original Paintings on China and Faience by artists and amateurs. (*See also Class 36.*)

Leprince, Louis Aimé Augustin; Painter and Designer on Enamel and China, &c.; *Leeds School of China Painting, 33, Park Square, Leeds.*

Paintings on Enamel, China-ware, &c.; Vases, Dishes, Slabs, Tiles, &c., painted, enamelled, and gilded in various styles; also Miniatures, &c. on enamel.

Maw & Co.; Manufacturers of Encaustic and other Tiles; *Benthall Works, Broseley, Shropshire.*

Encaustic Tiles, Geometrical Mosaics, Pictorial Mosaics, and Roman Mosaics, for pavements, hearths, &c., &c.; enamelled and glazed Tiles, plain and decorated, for wall lining, fire-places, baths, &c. Hand-painted Art Tiles, and large Slabs and Plaques, for fireplace splays, and inlaying in wood and stone work. Architectural Majolica for pilasters, string courses, chimney-pieces, and fenders. A Collection of Tiles, Tazzas, &c. in lustre, being a reproduction of the mediæval art. Terra-Cotta Plant Markers, &c., &c.

Mintons; Inventors and Manufacturers of Tiles and Pottery; *China Works, Stoke-upon-Trent, and 28, Walbrook, Mansion House, London.*

Vases, Ornaments, Dinner, Dessert, Tea, Breakfast, and Toilet Services, in white, painted, and enamelled earthenware. Porcelain Pâte-sur-pâte, white and coloured parian. Majolica and Palissy, Indian Ware, Faience d'Orion (Henry II.), Persian Ware. White, printed, enamelled, and hand-painted Art Tiles and Mosaics.

Minton, Hollins, & Co.; Inventors and Manufacturers; *Patent Tile Works, Stoke-upon-Trent.*

Encaustic Tiles, glazed and unglazed. Plain Tiles, glazed and unglazed. Embossed Majolica Tiles. Art-painted and enamelled Tiles. Ceramic Mosaic.

Pinder, Bourns, & Co.; Earthenware Manufacturers, Inventors; *Nile St. Works, Burslem, Staffordshire.*

Vases, Jars, Plaques. Dinner, Dessert, Tea, and Toilet Services. Sanitary ware, such as Table Tops with Basins, Plug Basins, &c.

The Royal Porcelain Works Company; Manufacturers and Inventors (R. W. Binns, F.S.A., Managing Director); *Worcester.*

Specimens of Porcelain in Vases and Services. Specimens of Ivory Porcelain in Vases, Statuary, and Services. Specimens of vitreous Crown Ware for Services. Specimens of Decorative Objects in Japanese taste. Specimens of Jewelled Porcelain. Specimen of Worcester Enamels on Porcelain.

Stiff, James, & Sons; Stoneware and Terra-Cotta Manufacturers; Inventors; *London Pottery, High St., Lambeth, London.*

Collection of Vases, Jugs, Water Filters, &c., in the new decorated Lambeth Ware, only once fired, etched, coloured, and glazed on the unburnt clay. Specimens of brown and white Stoneware Bottles, Jars, &c., specially hard body and brilliant glaze, intensely vitrified. (*See also Class 66.*)

The Torquay Terra-Cotta Co., Limited; Manufacturers; *Hele Cross Pottery, Torquay.*

Statuettes of classical, historical, and original design. Vases with enamel decoration, over and under glaze. Plaques painted in enamel. Jugs, Water Bottles, Flower-pots, &c.

Wedgwood, Josiah, & Sons; Potters; *Etruria, Stoke-upon-Trent, Staffordshire, and St. Andrew's Buildings, Holborn Circus, London.*

The Portland Vase, facsimile of the original, by Wedgwood. A Cabinet, decorated with jasper plaques, illustrative of Chaucer, Shakespeare, and Milton, modelled and designed by C. Toft. Jasper Vases and Plaques, new bas-relief, new models, designs, and finish. A Chimney Piece and panelled superstructure, decorated with plaques and vases, painted under glaze on coloured bodies by T. Allen and other painters. A pair of large Greek Vases, brown body, painted under glaze. Painted by Allen: A pair of China Renaissance Vases, subjects from Milton; two large Swan Vases, earthenware, painted in blue under glaze, subjects, "Triumph of Flora" and "Samson;" pair of Vases subjects from the Odyssey; pair of Greek Vases, painted in colour under glaze, subjects, Orpheus and Eurydice; pair Renaissance Vases, same style, Nymphs and Amorini; pair of Greek Vases, imitation Red Granite Vigornian Ware, an application of glass engraving to Pottery. Various Vases and Plateaux, painted with flowers, figures, and landscapes by various painters.

CLASS 21.—CARPETS, TAPESTRY, AND OTHER STUFFS FOR FURNITURE.

Carpets, moquettes, tapestry, terry and velvet pile, &c. Felt carpets, matting, &c. India-rubber floorcloth, &c.

Furniture stuffs of cotton, wool, or silk, plain or figured. Horse-hair fabrics and leather cloths, moleskins, &c. Leather for hangings, for covering furniture, &c. Oilcloths.

The Boulinikon Floor-cloth and Manufacturing Company, Limited ; Patent Floor-cloth Manufacturers ; Worsley St., Salford, Manchester.

Boulinikon or Buffalo Hide Floor-cloth is a thick and soft, but very solid fabric, composed of animal and vegetable substances, hair and wool, including the skins of buffaloes reduced to the condition of fibre, only saturated with colour mixed with a vegetable oxide upon which the patterns are printed with blocks. The result is a material elastic and warm to the tread, impervious to damp, and almost incombustible.

Brinton, John, & Co. ; Carpet Manufacturers ; Kidderminster ; and Monkwell St., London.

Super Wilton Velvet Pile Carpets in Indian, Persian, self-colours and Jewel styles. Best Tapestry Carpets.

Butchart, Lindsay, & Co. ; Manufacturers of Linen, Hemp, and Jute Cloths ; Dundee Linen Works, Dundee.

Jute Carpeting. Manilla Hemp Matting. Jute Sacking.

Cooke, Sons, & Co. ; Carpet Manufacturers ; 12, Friday St., London, Liversedge, Yorkshire, and Hadleigh, Suffolk. (Agent in Paris, F. Vincent, 28, Rue du Sentier.)

Wilton, Brussels, Tapestry, and Felt Carpets, Rugs, &c.

Corbiere, Son, & Brindle ; 30, Cannon Street, and 88, Queen Victoria Street, London. Paris, 27, Rue des Jeuneurs.

Tapestry Curtains in the Fine Art Galleries of the British Section.

The Corticine Floor Covering Company ; Manufacturers of Floor-cloth and Inventors ; 112, Queen Victoria St., London, and Ponders End near London.

A Floor-cloth made of a combination of oil and cork rolled upon canvas, and forming a warm, soft, noiseless material, thoroughly damp-proof and unaffected by temperature.

Grimond, J. & A. D. ; Bow Bridge Works, Dundee.

Brussels, Tapestry, Dutch, and Twilled Carpetings, manufactured from Jute.

Hare, John, & Co. ; Floor-Cloth, Canvas and Colour Manufacturers ; Temple Gate, Bristol.

Two Pieces of Floor-cloth, all the materials of which are made by the firm, from spinning the hemp and flax to weaving the canvas and making all the colours used in its manufacture.

Henderson & Co.; Carpet Manufacturers, Inventors; *Durham*.

One Durham Axminster Carpet woven by power in patent loom. One Royal Wilton Carpet, woven by power.

Holme, George; Merchant and Importer; 37, *Booth St., Bradford, Yorkshire*.

Hand-made Carpets from India, Persia and Turkestan. Oriental hand-woven and embroidered Curtains, Table Covers, and fabrics for upholstery. Exhibited in Indian section. (See also Class 34.)

Lapworth Brothers; Carpet Manufacturers; 22, *Old Bond St., London*.

Real Indian and Cashmere Carpets.

Linoleum Manufacturing Company, Limited; (F. Walton's Patent); 144, *Queen Victoria Street, City, London*. Works, *Staines, Middlesex*. (Agent in Paris, E. Jousseaume, 21, *Boulevard Haussmann*.)

Linoleum Floor-cloths consisting of body cloths, passage and stair cloths, borders, and mats. Linoleum Floor-cloth is a woven fabric on which is rolled a material composed of solidified or oxydised linseed oil combined with powdered cork, which is then printed on the face and waterproofed at the back.

Mitchell Bros.; Woollen Manufacturers, Dyers, and Printers; *Albert Works, Waterfoot, near Manchester*.

Table Covers, Felt Carpets, Embossed Skirts.

Hairn, Michael, & Co.; Floor Oil-cloth and Linoleum Manufacturers; *Kirkcaldy, Scotland*.

Floor Oil-cloths and Linoleum.

Robinson, Vincent, & Co.; Oriental Carpet and Rug Merchants; 34, *Wigmore St., London*.

Indian Carpets of Wool from Madras, Calcutta, and Bombay Presidencies. Specimens of Silk Carpets from Malabar. Persian Carpet, probably 16th century, made in the province of Khorassan. Persian Carpet, probably 17th century, made in the province of Khorassan. Six Persian Carpets of the 18th century. Persian Carpet, probably 17th century, made at Kurdistan. Two Persian Rugs, probably 16th century, made at Kurdistan. Caucasian embroidered Prayer Rugs. Persian Shawl Stuffs made at Yezd. Old Rescht Embroideries. Ispahan Cotton Prints. Kenares Carpets of goats' hair. Persian Faience, glass, and pierced brass work. (Exhibited in the Indian Section.)

Royal Windsor Tapestry Manufactory (H.R.H. PRINCE LEOPOLD, K.G., PRESIDENT); *Old Windsor, Berks*.

Tapestry panels, illustrating "The Merry Wives of Windsor," forming part of the decoration of the Royal Commission House in the Paris Exhibition of 1878. A copy in Tapestry of the portrait in Windsor Castle of Her Majesty the Queen, by special permission, from Baron Von Angeli. A Tapestry sofa for Her Majesty the Queen.

Smith (Turberville) & Son; Carpet Manufacturers and Importers of Foreign Carpets; 9, *Great Marlborough St., London.*

A real Axminster Carpet woven by hand, exhibited for fineness of quality, manufactured at the Royal Carpet Factory, Wilton, near Salisbury. In the Indian Section Messrs. Smith exhibit a Cashmere Carpet (India) woven by the celebrated Cashmere Shawl weavers, and imported under special grant from the Maharajah.

Southwell, H. & M.; Carpet Manufacturers and Designers; 1, *Holles St., Cavendish Square, London. Works, Bridgnorth, Shropshire.*

Velvet Pile Carpets.

Stephens, James; Carpet Manufacturer; 2, *Frith St., Soho Square, London. (Agent in Paris, M. Walmez. 8, Place des Victoires, and 8, Place des Petits Pères.)*

One Carpet, Turkish design. Three Carpets, Indian design. Rugs and Stairs Carpets.

Stoddard, A. F., & Co.; Carpet Manufacturers; *Glenpatrick Carpet Works, Paisley, Scotland.*

Tapestry and Velvet Carpets. Velvet Sofa Carpets. Patent Carpet Lining and Stair Pads.

Tapling, Thomas, & Co.; Carpet and Manchester Warehouseman; 31 to 45, *Gresham St., and 108 to 110, Wood St., City, London, and at Glasgow. (Agent in Paris, E. Chicot, 27, Rue d'Aboukir.)*

Axminster and other Carpets. A Cartoon, of "Axminster" manufacture, woven in one piece, for wall decoration, subject "Christ blessing little children."

Templeton, James, & Co.; Carpet Manufacturers and Inventors; *Glasgow, and 77, Newgate St., London.*

Patent Axminster Carpets, Hearth Rugs, Mats, Table Covers, &c. Carpets and Curtains for the Pavilion of the Royal British Commission.

Templeton, J. & J. S.; Carpet and Curtain Manufacturers; *Glasgow, and 77, Newgate Street, London.*

Brussels and Wilton Carpets. Silk and Wool Curtains. Carpets and Curtains in the Pavilion of the Royal British Commission.

Thom & Lawson; Carpet Manufacturers, Inventors; 78, *Newgate Street, London. Works, 95, Cumberland St., Greenhead, Glasgow.*

A patent Axminster Carpet woven in one piece, 15 feet by 12 feet. A sample patent Oriental Reversible Carpet. Patent reversible Portière and Tapestry Window Curtains. Samples of Carpets in three-quarter widths. Rugs.

Tomkinson & Adam; Axminster Carpet and Rug Manufacturers; *Kidderminster*; 78, *Newgate St., London*; *Portland St., Manchester*.

Axminster Carpets woven in one piece without seam, designed to illustrate four different examples of style.

Treloar & Sons; Cocoa-nut Fibre Manufacturers, Inventors; 69, *Ludgate Hill, London*.

Floor Coverings made of Cocoa-nut Fibre. Door-mats made of Cocoa-nut Fibre.

Tull, Glanville, & Co.; Floor Covering Manufacturers; *Crown Works, Roupell St., Lambeth, London*.

Cork Floor-cloth, a preparation of pure Linseed Oil mixed with finely ground cork and rolled upon a strong canvas. Cork Carpet, ground cork mixed with a solution of India-rubber and rolled upon a light Canvas or Scrym.

Walton, Frederick; Manufacturer and Inventor of Linoleum Floor Cloth; *Heatham House, Twickenham, Middlesex. Works, Sunbury-on-Thames, Middlesex.* (Agent in Paris, *E. Joussen*, 21, *Boulevard Haussmann*.)

"Linoleum Muralis." The Sunbury Wall Decoration (patented), ornamented in relief and capable of the highest artistic treatment. The invention consists in the application of solidified oils used alone or in combination with resin, powdered cork, fibre, &c.

Watson, Bontor, & Co., 35, *Old Bond Street, London*.

Carpets. (Exhibited in Indian Section.)

Wagh & Son; Cabinet Makers, Upholsterers, and Carpet Manufacturers; 3 and 4, *Goodge St., Tottenham Court Rd., London*.

Two Wilton Pile Carpets. (See also Class 17.)

Whincup, Joseph; Table Cover Manufacturer; 36, *Wood St., London*.

Woollen Cloth Table Covers, embroidered by hand with silk, and silk and wool combined.

Widnell, Henry, & Co.; Carpet Manufacturers; *Lasswade, near Edinburgh*.

Velvet Pile Carpets. Tapestry Carpets. Velvet Pile Sofa Carpets and Hearth Rugs. Velvet Pile Table Covers and Church Mats. Moquettes for Window Curtains, &c. Tapestry Sofa Carpets and Hearth Rugs.

Wildey, William, & Co.; Cocoa-nut Fibre Matting and Mat Makers, Inventors, and Original Patentees; 13, *Holland St., Blackfriars Road, London*.

Floor Coverings. Door Mats and various other articles made from the husk of the Cocoa-nut.

Willis, Henry Richard, & Co.; Manufacturers of Brussels and Wilton Carpets; *Worcester Cross, Kidderminster.*

Brussels and Wilton Pile Carpets of the best qualities, designs, and colourings, being specimens of the English taste of the present day.

Woodward, Grosvenor, & Co.; Carpet and Rug Manufacturers; *Stour Vale Mills, Kidderminster, and 102, Newgate St., London.*

Brussels Carpets for Dining and Drawing Rooms and Boudoirs, Brussels Carpet for Staircases. Velvet Pile Carpets for Staircases. Velvet Pile Carpets for Dining and Drawing Rooms and Boudoirs.

CLASS 22.—PAPER HANGINGS.

Printed paper hangings. Flock, marbled, veined paper, &c. Paper for covering, bookbinding, &c. Artistic papers. Varnished and enamelled paper. Imitations of wood and of leather. Painted or printed blinds.

Allan, John, & Son; Paper Hanging Manufacturers; *Wick Lane Works, Old Ford Road, Bow, London. (Agents in Paris, Duval, Frères, 155, Faubourg St. Denis.)*

Paper-hangings manufactured by steam machinery only.

Jeffrey & Co.; Paper Stainers and Manufacturers; 64, *Essex Road, Islington, London.*

A Paper Wall decoration, designed by Walter Crane. A Paper Wall Decoration designed by B. J. Talbert. (*See also Class 18.*)

Woollams, William, & Co.; Manufacturing Paper Stainers; 110, *High Street, Manchester Square, London.*

Embossed Flock Papers for wall, ceiling, and general surface decoration (patented). Specialities, High Class Block Printed Papers, Embossed Leathers, Embossed Golds, warranted, and raised flocks for painting.

CLASS 23.—CUTLERY.

Knives, penknives, scissors, razors, &c. Cutlery of every description.

Brookes & Crookes; Cutlery Manufacturers, Inventors; *Atlantic Works, Sheffield.*

Pen, Pocket, and Sportman's Knives. Table Knives, Bowie Knives, Razors, Scissors, and Dressing Case Instruments.

Davis, J. C.; 69, *Leadenhall Street, London.*
Cutlery.

Morton, Joseph (Macdaniels); Manufacturing Cutler; 343, *Oxford St., London. Works, Baldwin's Gardens, London.*

Razors, Scissors, Pocket and Table Cutlery, Sporting and Hunting Knives. Various kinds of fitted cases.

Neal, John, & Co.; Manufacturers of Neal's Pyro-Silver (Registered); 23, 24, and 25, *Hampden Gurney St., Upper Berkeley Street, London.*

Neal's Pyro-Silver (Registered) Cutlery in Table, Dessert, and Fish Knives, Forks and Spoons, mounted in carved and plain Ivory, Pearl, Silver, Agate, and Rock Coralite Handles.

Neal, John; Gold and Silversmith; 44, 46, and 48, *Edge-ware Road, London.*

Gold and Silver Jewellery set with precious stones. Gold and Silver Watches, Chronometers, and Timekeepers. Silver and Electro-plated Articles for the Table.

Rodgers, Joseph, & Sons, Limited; Cutlers to Her Majesty; 6, *Norfolk St., Sheffield.*

A collection of specimens of the finest quality of cutlery, comprising Table Cutlery, Pen and Pocket Cutlery, Razors, Scissors, Knives and Forks for Fish Eating and Dessert, Fish Carvers, &c.

CLASS 24.—GOLDSMITHS' AND SILVERSMITHS' WORK.

Church plate, ornamental plate and table plate, gold and silver toilet articles, writing materials, &c. Electrotypes.

Art Union of London; 444, *West Strand, London.*

"America," group from the Royal Albert Hall, Hyde Park, London.

Betjemann, George, & Sons; Desk, Dressing Case, and Ormolu Manufacturers and Inventors; 86, 38, and 40, *Pentonville Road, Clerkenwell, London.*

Silver Etui Sandwich Cases and Toilet Cases.

Chubb & Son; Art Metal Workers; 128, *Queen Victoria Street, London. Works, London and Wolverhampton.*

Ecclesiastical and Mediæval Metal Work; Ornamental Tiles for Church decoration; Carved Woodwork. Patent Detector Locks, for all purposes. Cash Boxes, Paper Boxes, Writing Boxes, and Key Boxes. Specimens of richly ornamented Locks and Keys. (See Exhibit also in Classes 25 and 66.)

Elkington & Co.; Electro-Platers and Silversmiths, Inventors; *Newhall St., Birmingham.*

Electro-plated articles of all kinds. Repoussé works of art in silver, steel, and copper. Damascened works of art in gold,

silver, steel, and copper. Cast works in solid silver, highly chased; also in other metals, electro-gilt, plated, and oxydised. Electro-deposited works in silver and copper gilt and plated. Electro-deposited reproductions of ancient metal work in the South Kensington Museum. Real Cloisonné and Champ Levé Enamels in great variety of form and colour.

Hart, Son, Peard, & Co.; Metal Workers; 168, *Regent St., London*; and 53, 58, *Wych St., Strand, London*, and *Grosvenor Works, Birmingham.* (*Agent in Paris, Henri Collet, 6, Rue de Paradis Poissonnière.*)

Dog Grates, Register Grates, Candelabra, Lecterns, Epergnes, &c.

Hodd, R., & Son; Manufacturing Silversmiths and Electro-platers; 30 and 31, *Hatton Garden, London.*

London-made first quality electro-plated and gilt goods, in a Coffee-making Apparatus for restaurants and large establishments, general Table Services, and Reproductions of old style silver Candlesticks and Candelabra.

Jones & Willis; Church Furniture Manufacturers; 43, *Great Russell St.*; *Works, 260, Euston Road, London*, and *Temple Row, Birmingham.*

Two massive Brass Sanctuary Standards with Seven Arms. An Eagle Lectern in brass and copper. Elaborate Entrance Gate entirely of wrought iron. Glass Case containing Altar Vessels, Alms Dish, and small Brass and Silver Goods. Handsomely carved Oak Reredos with super altar, designed by W. Scott Champion, Esq., Architect. Altar Frontal, embroidered entirely by hand, and designed by W. C. Brangwyn, Esq., Architect. Hangings, Carpets, &c., designed by W. C. Brangwyn, Esq.

Mackay, Cunningham, & Co.; Goldsmiths, Silversmiths, and Watchmakers; 62, *Princes St., Edinburgh.*

Jewellery, Silverplate, Watches.

Ridge, Woodcock, & Hardy; Manufacturers of Britannia Metal and Electro-plated Goods; *Eldon St., Sheffield.* (*Agent in Paris, The Paris Crystal Earthenware and Hardware Co., Limited, 42, Rue de Paradis Poissonnière.*)

Britannia Metal and Electro-plated goods.

Shaw & Fisher; Manufacturers of Britannia Metal and Electro-plated goods; Inventors; 43, *Suffolk Road, Sheffield.*

Articles of domestic use and ornament in Britannia Metal, Electro silver-plated upon Britannia Metal and Nickel Silver and Electro-plated upon Nickel Silver, consisting of Tea Pots, Coffee Pots, Sugar Basins, Cream Ewers, Cake Baskets, Waiters, Side Dishes, Dish Covers, Cruet Frames, Mugs, Cups, Flower Stands, &c. &c.

**CLASS 25.—BRONZES AND VARIOUS ART CASTINGS, AND RE-
POUSSÉ WORK.**

Statues and bas-reliefs in bronze, cast-iron, zinc, &c. Castings coated with other metals by galvanic action.

Repoussé work in copper, lead, zinc, &c. •

Barnard, Bishop, & Barnards; Manufacturers and Inventors of Galvanized Iron Wire Netting; *Norfolk Iron Works, Norwich.*

Ornamental Cast-iron Pavilion for Garden or Park. Artistic Forgings in the form of Entrance Gates, Palisade, &c. Galvanized Wire Netting. Garden Furniture. Ornamental and Decorative Slow Combustion Stoves. (*See also Class 85.*)

Chubb & Son; Art Metal Workers; 57, *St. Paul's Churchyard, London. Works, Birmingham.*

Ecclesiastical and Mediæval Metal Work. Ornamental Tiles for Church decoration. Carved Woodwork. (*Exhibit also in Classes 24 and 66.*)

The Coalbrookdale Co.; *Coalbrookdale, near Wellington, Shropshire.*

Casting, "The Royal Arms," on the front of the Offices of the Royal British Commission. Two Fireplaces complete, Grates, Fenders, Fire-irons, &c., fitted to show Tiles, exhibited in Messrs. Craven, Dunnill, & Co.'s space, in Class 20.

Cubitt, William, & Co.; Builders; 258, *Gray's Inn Road, London.*

Entrance Gates of wrought and hammered iron, made for the Right Hon. Lord Crewe, and intended for one of the approaches at Crewe Hall, Cheshire. The Gate Piers are models of those executed in stone. The whole designed by Edward M. Barry, Esq., R.A. (*Exhibited in International Facade.*)

Hardman, J., & Co.; Mediæval Metal Workers and Stained Glass Painters; *Newhall Hill, Birmingham, and 13, King William Street, London.*

Flower Stand of Hammered Iron; case of Repoussé and enamelled silver or gilt-work. Two Chandeliers of Brass or Bronzed metal. (*See also Class 19.*)

Singer, John W., & Son; Metal Workers, Inventors; *Frome, Somerset.*

Brass Eagle Lectern, with highly wrought chased and inlaid work. Repoussé Rose-water Dishes in silver, copper, and brass, inlaid with other metals. Brass Monumental Plates, Metal Alms Dishes. Portraits in Copper, Repoussé. Bronze Figures.

CLASS 26.—CLOCKS AND WATCHES.

Separate parts of clocks of large or small size.

Watches, chronometers, pedometers; various time-keepers, &c. Time-pieces and clocks working by springs or weights, regulators, metronomes.

Astronomical clocks; marine chronometers; travelling clocks. Alarums, &c. Water clocks and sand glasses. Electric clocks. Turret and church clocks.

Bennett, Sir John; Watch and Clock Manufacturer, Goldsmith, and Diamond Merchant; 64 and 65, *Cheapside, London.*

Marine Chronometer, Pocket Keyless Chronometers in Gold Cases, English Keyless Lever Watches compensated for all climates; Watches for Railway Guards; 18-carat Hall-marked Standard Gold Chains; English Quarter Clocks, chiming on 8 bells and striking on gongs: Astronomical Regulator, surmounted by a time ball rising every hour by regulator machinery, and falling by electric current, thus rectifying any possible error to the tenth of a second.

Betjemann, George, & Sons; Desk, Dressing Case, and Ormolu Manufacturers, Inventors; 36, 38, and 40, *Pentonville Road, London.*

Clocks and Candelabras. (Exhibited in Class 24.)

Frodsham, G. E.; Chronometer and Watch Manufacturer; 31, *Gracechurch Street, London.*

Marine Chronometers, Watches, Chains; Jewellery; Chronometers with improved auxiliary balance; Keyless Watches and Pocket Chronometers with improved keyless action.

Kullberg, Victor; Chronometer and Watch Manufacturer, Inventor; 105, *Liverpool Road, London.*

Eight-day Chronometers of simplified construction and ordinary Eight-day Chronometers. Two-day Chronometers with Exhibitor's flat rim balances as well as his auxiliary balances. Pocket Chronometers and Lever Watches with Exhibitor's improved keyless works.

Price, George Frederic; Church and Turret Clock Manufacturer and Designer; 11, *Melbourne Square, Brixton Road, London.*

Specimens of Church and Turret Clocks, with gravity and other escapements and compensated pendulums.

Riego, Michael; Chronometer, Watch, and Clockmaker, Inventor; 284, *Regent St., London.*

Marine and Pocket Chronometers; Watches of every description. Patent Electric Clock for registering purposes.

Shick, Frederick; Watch, Clock, and Chronometer Fusee Chain Manufacturer; 58, *Rahere St., Goswell Road, London.*

Fusee Chains for Watches, Clocks, and Marine Chronometers; also for Aneroid Barometers, Telegraph, and Surgical Instruments.

Webster, Richard; Fellow of the Royal Astronomical Society, Chronometer Maker and Inventor; 5, *Queen Victoria St., London.*

A new and improved compensation balance. A Marine Chronometer fitted with the improved balance.

CLASS 27.—APPARATUS AND PROCESSES FOR HEATING AND LIGHTING.

Fire-grates, fire-places, stoves, and hot-air stoves. Accessory objects for heating. Kitchen-ranges and apparatus for heating and cooking by gas.

Apparatus for heating by the circulation of hot water, steam, or heated air. Ventilating apparatus. Drying apparatus; drying stoves.

Enameller's lamps, blow-pipes, portable forges.

Lamps for illuminating purposes, fed with various oils.

Accessory objects for lighting. Matches.

Apparatus and accessory objects for lighting by gas.

Lamps for the electric light. Apparatus for the use of the magnesium light, &c.

Bacon, J. L., & Co.; Manufacturers of Hot Water Apparatus; Inventors; 34, *Upper Gloucester Place, London.*

Hot Water Apparatus for warming and ventilating buildings. This apparatus consists of continuous lengths of wrought-iron tube, closed in all parts, and filled with water, a portion formed into a coil being placed in a furnace in the basement, and the pipes to warm the rooms arranged round the rooms under the floor or in coils. Coil of Pipe, with improved fresh warm air inductor. Renaissance Coil Case, suitable for a drawing room. Gothic Coil Case, suitable for a church. Isometrical Drawing, showing different methods of applying this system to a private house. Drawing of a Drying Room or Disinfecting Closet, which can be warmed to 300° Fahr. or 150° Celsius. Drawing of arrangement for warming and ventilating hospitals and large schools. Drawing of system adopted for warming and ventilating schools at Altona and Dantzic. Drawings showing the application of this system to various buildings.

The Falkirk Iron Company; Ironfounders; 67, *Upper Thames Street, London. Works, Falkirk, Scotland.*
(Agent in Paris, *Thoultz, 12, Boulevard St. Martin.*)

Stoves for heating Churches and Private Buildings.



Feetham, Mark, & Co.; Stove Manufacturers; Ironworkers; Engineers; Inventors; 9, *Clifford St., London.*
Works, 17, Soho Square, London.

Stoves and Grates for warming rooms, &c. Artistic Iron Work and Castings. Complete Furniture for Fire-places, &c.

Gardner, John, & Sons; Lamp Manufacturers, Inventors; 453 and 454, *Strand*; 3 and 4, *Duncannon St., Strand, London.*

Lamps, Colza and Petroleum, in Metal, Earthenware, Porcelain, and English Marbles. (Exhibit also in Classes 20 and 36.)

Harris, George Henry; Engineer and Machinist; *Bristol Street, Birmingham.*

The "Eagle" Range, requires no brickwork setting, will burn either in an ordinary fire-place or in the open air. It can be used as a close or open fire range, and be easily altered from one to the other. The special construction of the fire-bars causes a great economy in fuel. (See also Class 14.)

Kerr, Edward, jun.; Brassfounder, Manufacturer, and Inventor; 66, *Manor St., Dublin.*

Kerr's (Patent) Safety Wind Proof Farmers' Lamp, for farm, household, and general use, especially adapted for stables, stores, and mills; it burns 18 hours at the cost of 1d., lights equal to 9 candles. Wick to suit Kerr's Patent Farm Lamp. Kerr's Glendalough Glucine, a powerful transparent cement, illustrated by models. Mauchline Woodwork, Articles of Utility, Water Fountains and Models. Photographs, Photographic Views, Engravings.

Leoni, S., & Co.; Engineers, Patentees, Manufacturers, and Inventors; *Adamas Works, 54 to 66, St. Paul's St., New North Road, Islington*; and 74, *Strand, London.*
(Agent in Paris, G. Amiel, 12, *Cité Trevisé.*)

No. 09, Gas Oven, for roasting or baking; will roast up to 120 lbs. of meat, with a consumption of about 60 cubic feet of gas. No. G. 427, Gas Hot Plate, fitted with four independent atmospheric gas fires and two powerful grillers under the hot plate to broil and toast by deflected heat. No. 510, Gas Kitchen, comprising large oven for roasting and baking; and hot plate. No. 520, Patent Multiple Gas Boiler, with steamer, fitted with man-hole; steam is generated in about 20 minutes, and will cook 1 cwt. of potatoes in half an hour. No. KB. 25, Patent Multiple Gas Boiler, with hot closet; water is boiled in 20 minutes at a cost of 4d. per 100 gallons. Gas Hot Closet, with Berlin black and ormolu front and Sicilian marble top. The Lady's Summer Kitchen, and other small Gas Apparatus for domestic purposes. Drawings of our larger Apparatus, erected by us in hospitals, infirmaries, and other large establishments, in some of which the cooking is done for from 500 to 1,600 inmates.

Longden & Co. ; Ironfounders and Fire-place Manufacturers ;
Inventors ; *Phoenix Foundry, Sheffield.*

Fire-place in the English style of the 17th century, comprising Grate for throwing out warmed fresh air, partly of brass and partly nickel plated. Hearth, Fender, and Fire-irons. Marble Moulding. Carved Wood Chimney-piece, with cove representing the springing of ceiling to show the full height of a lofty room. Gaselier in the English style of the 17th century, in polished brass, suitable for a lofty room. Dog Grate, with tiled sides and carved wood Chimney-piece. Brass Grate, with tiled sides, fire-lump interior, and wood Chimney-piece. Tiled Stove, with Gas-heating and Reflecting Apparatus.

May, G. H., & Co. ; Yacht Fitters and Nautical Ironmongers ;
126 and 127, *High St., Cowes, Isle of Wight.*

Yacht's Cooking Stove, known as "Royal Yacht Squadron" Cooking Apparatus. Heating Stoves for halls, or yachts' cabins, fitted with marble and Minton's china slabs.

Musgrave & Co., Limited ; Ironfounders and Manufacturers ; Inventors ; *Ann St. Iron Works and Cromac Foundry, Belfast, Ireland ; and 97, New Bond Street, London.*

Musgrave's Patent Slow Combustion Stoves and Underground Air Warmers, in 27 different designs. Model showing method of heating all the rooms of a building from one apparatus. (See also Class 62.)

Paris, James ; Engineer, Manufacturer, and Inventor ;
Margery Park Road, Stratford, Essex.

Various Flat or Smoothing Irons heated by blow-pipe jets inside, adapted in shape and weight for all purposes, manufacturing and domestic. Special Irons, heated on same principle, for hatters, tailors, hosiers, &c. Portable Ironing Table, complete in itself, with apparatus for forcing air and also for making the gas required for heating ; adapted for cooking, brazing, soldering, glass blowing, chemical and general experiments, to be used with ordinary gas or with the gas made within itself.

Pillischer, Moritz ; Optician and Maker of Scientific Instruments ; 88, *New Bond Street, London.*

Lamps used for the Microscope, Study, Library, &c., called "the Queen's Microscope and Reading Lamps." Lamps in use in the Offices of the Royal Commission. (See also Class 15.)

Ridsdale & Co. ; Lamp Manufacturers ; 54, 55, and 56, *Minories, London.*

Two Ships' Lamps (bow and mast-head), with Davis & Thomas' patent burners. Two Railway Roof Lamps. Two Reading Lamps. Two Ships' Engine-room Back Lamps. Two Ships' Engine-room Overhead Lights. All Davis & Thomas' patents.

Rosser & Russell; Manufacturers, Conservatory Builders, and Inventors; 7, *Charing Cross; Works, Queen's Wharf, Queen St., Hammersmith, London.*

Ornamental Fire or Steam Stove. Ornamental Hot Water Stove. Ornamental Hot Water Pipes. Rectangular Ribbed Hot Water Stove. Air Warmer for churches or other buildings. Gill Stove. Ironing Stove. Drying Closet for linen, &c. Boilers. Cooking apparatus for hotels, mansions, &c. Steam Cooking Pans for institutions. Reversible Grate. Fire-brick Warm Air Stove. Hydraulic Lift. Furnace Front. H. P. Furnace, with coil and model showing arrangement of pipes in rooms. Apparatus for heating greenhouses, &c. Various models and drawings.

Scanlan, jun., & Co.; Engineers, Inventors, and Manufacturers; *Walsall, Staffordshire.*

Apparatus for Heating and Cooking by gas. (Leoni's patent.) (Exhibit also in Class 54.)

Steel & Garland; Stove, Grate, and Fender Manufacturers; *Wharnclyffe Works, Sheffield.*

Burnished Steel Grates, Art Tile Grates, Projecting Warm Air Grates, Wooden Chimney Pieces, Fenders, Curbs, Fire-irons, Encaustic Tile Hearths, &c. &c.

Wavish, James; Civil Engineer, Inventor, and Manufacturer; 7, *Fenchurch St., London.*

Wavish's Patent Coal Economisers for parlour and other domestic grates, with air chamber for supplying oxygen from outer atmosphere. Economiser for Marine and other Boilers and Furnaces. One Wavish patent Masthead Light. One Wavish patent Punkah Lamp.

Wright, John, & Co.; Gas Engineers, Inventors, and Manufacturers; *Essex Works, Broad St., Birmingham, and 155a, Upper Thames Street, London. Paris, 72, Rue Dunkerque.*

Gas Cooking Apparatus and Boiling Stoves in various sizes. An Oven for Gas Cooking Apparatus. A Bath with Gas Heating Apparatus. Gas Heating Stoves, "Brilliant," "Imperial," and Ventilating, of various sizes. Stannate Bronze-metal Gas Brackets and Chandeliers. Cases of Stocks and Dies for Engineers and Gasfitters. "Eclipse" Gas-making Apparatus. (See also Class 53.)

CLASS 28.—PERFUMERY.

Cosmetics and pomatums. Perfumed oils, essences, extracts and scents, aromatic vinegar; almond paste; perfumed powders, pastilles, and scent bags; perfumes for burning. Toilet soap.

Atkinson, J. & E.; Perfumers and Fancy Soap Manufacturers; 24, *Old Bond St., London, and B Warehouse, St. Katherine's Docks, London.* (*Agent in Paris, F. de Vidal, 30, Faubourg Poissonnière.*)

Essences, Bouquets, Eau-de-Cologne. Lavender waters and other Perfumes for the Handkerchief and Toilet. Toilet Soaps, Shaving Soaps and Creams, Pomades, Oils, Cosmetics, Hair Washes, Toilet Powders, Dentifrices, Toilet Waters and all kinds of Perfumery and articles for the Toilet.

Cleaver, F. S., & Sons; Wholesale Perfumers and Fancy Soap Makers, Inventors, and Patentees; 32 and 33, *Red Lion St., Holborn, London.*

Fancy Toilet Soaps. Perfumery. "Terebene" Disinfecting Soap, Creams, Hair Washes, Tooth Powders, &c. "Terebene" Disinfecting Liquid, Powder, &c.

Crown Perfumery Company; Manufacturers; 177, *New Bond St., London, and Fairfield Works, London.*

Perfumes from Natural Flowers. Fine Fancy Soaps. Toilet requisites of nearly every kind. Best quality Tooth Brushes, Hair Brushes, and Combs.

Laurendeau, P.; Chemist, Inventor; 29, *Queen St., St. Heliers, Jersey.*

Eau-de-Cologne.

Lewis, James; Wholesale and Export Perfumer; 6, *Bartlett's Buildings, Holborn, London.*

Iodine Soap (patented). Refined Toilet Soaps. Fancy Toilet Soaps. Preparations for the hair. Perfumes distilled from the Flowers. Preparations for beautifying the complexion. Tooth Powders and other preparations for beautifying and preserving the teeth and gums. Toilet Waters, viz., Eau-de-Cologne, Florida Water, Lavender Water (Mitcham), Hungary Water, Toilet Vinegar, Rose and Orange Flower Waters. Shaving Soaps and Creams. Hair Dyes. Cosmetics for the hair.

Luce, George; Manufacturing Perfumer; 44, *King Street, Jersey.*

Eau de Cologne.

Osborne, Bauer, & Cheeseman; Perfumers, Refined Soap Manufacturers, Inventors; 19, *Golden Square, Regent St., London.* (*Agent in Paris, James Reid, "Old England," 35, Boulevard des Capucines.*)

Fancy Soaps, Perfumery, Baby's Soap, Cosmetic Petrolina Soap, Petroleum Soap, Bauer's "Head Soap," Indian Bath

Soap, Inexhaustible Smelling Salts, Glycerine and Honey Jelly. Mhogra-ka-Phul, White Blossoms, Princess Louise. (Special perfumes.)

Pears A. & F.; Wholesale Perfumers, Inventors of Transparent Soap; 91, *Great Russell St., London*, and *Lanadron Works, near Isleworth, Middlesex.*

Transparent Soap for toilet, nursery, and shaving purposes.

Picse & Lubin; Flower Farmers, Manufacturing Perfumers, Distillers of Odorous Oils; 2, *New Bond St., London.* *Works, Mitcham Road, Surrey.*

Perfumes from Flowers. Ottos or Essential Oils. Fumigating Incense and Ribbon. Scented Soaps. Toilet articles. Sachets in variety. Tonquin Musk. Otto of Roses.

Price, Napoleon, & Co.; (Successors to Price & Gosnell) Perfumers and Soap Makers; 27, *Old Bond St.*, and 1, *Cumming St., Pentonville, London.*

Perfumery and Fancy Soaps. A new perfume from Guatemala.

Rimmel, Eugene; Perfumer and Toilet Soap Maker; 96, *Strand*, 128, *Regent St.*, and 24, *Cornhill, London.*

Handkerchief Perfumes, Toilet Vinegar and Waters, Toilet and Shaving Soaps, Pomades, and other Hair Preparations, Lotions, Powders, and Cosmetics for the Skin, Blanc-Marmon, a harmless stage white. Aquadentine and other Dentrifices, Aromatic Ozonizer, Perfumed Sachets, Almanacs, and Valentines. Jardinière Fountains, and the "Myrogene," a patent apparatus for extracting the aroma of flowers instantaneously without distillation, maceration, or absorption.

Rowland, A., & Sons; Wholesale Perfumers, Manufacturers, and Inventors; 20, *Hatton Garden, London.* (*Agent in Paris, W. Lamar, 22, Rue Quatre Septembre.*)

Rowland's Macassar Oil for the hair. Kalydor for the complexion. Odonto for the teeth. Eukonia, a toilet powder.

Yardley & Co.; Toilet Soap Makers and Perfumers; 7, *Vine Street, Bloomsbury, London.*

Toilet Soap in blocks, bars, and tablets in cartons. Essences. Lavender Water. Pomatum. Cherry Tooth Paste. Violet Powder. Rose Face Powder.

CLASS 29.—LEATHER WORK, FANCY ARTICLES, AND BASKET WORK.

Dressing cases, work boxes, small articles of fancy furniture, liqueur-cases, glove-boxes, caskets. Cases and bags, jewel-boxes. Purses, pocket-books, notebooks, cigar-cases.

Turned, engine-turned, carved, or engraved articles in wood, ivory, tortoise-shell, &c. Snuff-boxes. Pipes.

Fancy toilet combs and brushes.

Lacquered ware.

Fancy basket-work ; wicker work for bottles ; articles in fine straw.

Botjemann, G., & Sons ; Wholesale and Export Desk, Dressing Case, and Ormolu Manufacturers ; 36, 38, and 40, *Pentonville Road, Clerkenwell, London.*

Self-closing Book-slides and extending Dressing Cases. Desks. Writing Suits in fancy woods. Engraved and gilt mediæval ornamental Metal Work. Letter Balances. Photographic Albums and Frames, &c. Algerian Onyx. Malachite and other Fancy Marbles. Clocks and Candelabra. Silver Etui Sandwich Cases, and Toilet Cases. (Exhibited in Class 24.)

The British Xylonite Co., Limited ; Manufacturers and Patentees ; 124, *High Street, Homerton, London.*

Raw Xylonite, a substance made in imitation of Ivory, &c., viz. : Cutlery, Fancy Articles (Brushes, Combs, &c.), Imitation Jewellery, Billiard Balls.

Cave, H. J., & Sons ; Basket and Portmanteau Makers ; 40, *Wigmore St., London.*

Solid Leather Portmanteaus and Dressing Cases. Leather Travelling Bags. Basket Work in Wicker and Cane.

Chapman, Son, & Co. ; Fancy Cabinet and Leather Goods Manufacturers, Inventors ; 2 and 3, *Charterhouse Buildings, London.*

"The Royal Cabinet of Games." The patent Universal Liqueur Cabinet. The patent Liqueur and Cigar Cabinet, and various other Liqueur and Spirit Cases. Fitted and empty Travelling Bags. Dressing Cases. Writing Desks. Perfume Cases. Jewel Cases. Purses. Card Cases, Work Boxes, &c.

Dixie, Mrs. Margaret ; Jewellery Case Manufacturer ; 13, *Wilmington Square, Clerkenwell, London.*

Morocco and Velvet Cases and Window Stands for Jewellery and Silversmith's Work.

Horsey, John G., & Co. ; *Copperfield Road, Mile End, London.*

Bass (Piassava) Brooms and Brushes produced entirely by machinery, each knot or tuft being securely fixed in a solid stock or block (independent of the other tufts) by a strong steel

wire or fastener. No pitch or other adhesive substance being used in fastening the tufts, the brushes are not affected by fire, climate, or other heat so fatal to all hand-made goods.

Jacques, Zachria; Wood Carver; 6, *Upper Abbey St., Dublin.*

Specimens of White Wood Carving. Models of Irish Crosses and Abbeys and Table Ornaments in Irish Bog Oak. Personal Ornaments in Irish Bog Oak mounted in silver and gold.

Jenner & Knewstubb; Dressing Case, Travelling Bag, and Despatch Box Manufacturers, Inventors of the patent A B C Despatch Box, the patent Jewel Case, and Elgin Writing Case; 33, *St. James's St., and 66, Jermyn St., London.*

Dressing Cases, Travelling Dressing Bags, Despatch Boxes, Writing Cases, Pocket Books, and fancy leather goods in Cigar Cases, Memorandum Books, Purses, &c. Dies, with specimens executed in gold and colours, and illuminated, &c.

Jones, Thomas; Manufacturer; 41, *St. James's St., London.* (*Agent in Paris, Thos. Jones, 23, Boulevard de Capucines.*)

All kinds of Leather Work, mounted or not. Specimens of Paper Stamping and Seal Engraving; Fancy Articles of every description; Cut Crystal of all kinds for toilet uses, and Glasses; Fans, Fancy Cutlery, Note and Letter Paper; Bags, fitted and empty, Dressing Cases, Portmanteaus.

Kent, George Barton, & Co.; Brush Manufacturers; 11, *Great Marlborough St., London.* *Works, Victoria Park, London.*

Brushes for the toilet, for the stable, for house painting, and for domestic use.

Leuchars & Son; 38 and 39, *Piccadilly, London*; and 2, *Rue de la Paix, Paris.*

Dressing Cases, Travelling Bags, &c. Gold and Silver Work, and Leather Work of all descriptions.

Reid, Alexander, & Sons; Brush Manufacturers; 8, *Etham Place, Great Dover St., Borough, London.*

General Household Brushes and stable brushes.

Scottish Vulcanite Company, Limited; Vulcanite Comb and Jewellery Manufacturers; *Viewforth Works, Edinburgh.*

An assortment of Vulcanite Combs and Vulcanite Fancy Articles.

The Star Brush Co., Limited; Manufacturers of Brushes and Brush Machinery; *Holloway, London.*

Various kinds of Brushes made with a solid back of wood, into which each knot or tuft is fastened by a wire staple, and is fixed independently of the other knots.

Stewart, S. B., & Co.; Comb Manufacturers; *Aberdeen Comb Works, Aberdeen.*

Combs of Horn, India-rubber, and Tortoiseshell.

Thornhill, Walter, & Co.; Manufacturing Cutlers, Silver-smiths, and Dressing Case Makers, Inventors; 144, *New Bond Street, London.*

Dressing Cases, Travelling Bags, Special London Made Cutlery, Norwegian Belts, Chatelaines, Patent Gold and Silver Pencil Cases; Thornhill's Instrument Knives; Thornhill's Salisbury Writing Case.

Wilde, James, & Son; Wholesale and Export Brush Manufacturers; *The Brush Factory, Oldham, Lancashire.*

Brushes for use in Mills and on Machinery. Brushes as used by Railway Companies. Domestic or Household Brushes.

FOURTH GROUP.

TEXTILE FABRICS, CLOTHING, AND ACCESSORIES.

CLASS 30.—COTTON THREAD AND FABRICS.

Cotton, dressed and spun.

Pure cotton fabrics, plain and figured.

Mixed cotton fabrics.

Cotton velvet.

Cotton ribands and tapes.

Armitage, Elkanah, & Sons; Cotton Spinners and Manufacturers; *Manchester. Works, Pendleton, near Manchester.*

Cotton Fabrics made of dyed yarns, suitable for domestic use, and grouped in the various countries to which they are adapted. Cotton Sail Canvas and Yacht Duck; Cotton Duck for india-rubber belting, hose, American leather cloth, piston packing, and waterproof goods. Specialities manufactured by the firm.

Ashworth, Edmund, & Sons; Cotton Spinners and Sewing Cotton Manufacturers; *Egerton Mills, Bolton, Lancashire.*

Cotton in the various stages of manufacture, Single Yarns, Double Yarns, 2-fold, 3-fold, 4-fold, 6-fold, and 9-fold; Sewing Cottons, on reels in white, black, and colours; Crochet Cottons, on reels, in balls, and in skeins; Embroidering Cottons, Knitting and Mending Cottons, Glove Cottons, Linen Finish Thread, Polished Yarns.

Barlow & Jones, Limited; Spinners and Manufacturers in Cotton; 2, *Portland St., Manchester, and Albert Mills, Cobden Mill and Prospect Mills, Little Bolton and Longlands Mill, Bury, Lancashire.*

Plain and Fancy Muslins, Toilet, Marseilles, Honey-comb, Alhambras, and Fancy Quilts, Quiltings, Damasks, Toilet Covers, Skirts, Mats, Counterpanes, Towels, Twills, Sheets, Cotton Blankets, &c.

Behrens, Louis; Manufacturer; 41, *Portland St., Manchester.*

Black and coloured Velvets, Velveteens, Cords, and Mole-skins, Silk-faced Velvets. (Exhibited in Class 34.)

Brook, Jonas, & Bros.; Sewing Cotton Manufacturers; *Meltham Mills, near Huddersfield.*

Cotton Sewing Threads, patent glacé and soft, for hand and machine work, white, black, and coloured; crochet and embroidery cotton, &c.

Carlile, James, Sons, & Co.; Thread (cotton) Manufacturers; *Bankend Mills, Paisley.*

Cotton Sewing Thread in soft and glacé finish, and Crochet and Embroidery Cotton.

Christy, W. M., & Sons, Limited; Cotton Manufacturers and Spinners; 14, *West Mosley St., Manchester, Fairfield Mills, near Manchester, and 51, Bow Lane, London.*

Royal Turkish Towels. Terry Cloth. Bath Blankets. Broché Terry Cloth. Bath Gowns and Gloves made therefrom; other plain and fancy Towels of Cotton and Linen.

Clark & Co.; Sewing Cotton Manufacturers; *Anchor Mills, Paisley. (Agent in Paris, J. L. Pollock, 25, Rue Thevenôt.)*

Sewing Cotton of all descriptions, both for hand and machine use. Crochet, Tatting, Embroidery and Knitting Cottons.

Clark, J., & Co.; Thread Manufacturers; *Paisley Thread Works, Paisley.*

Sewing Cotton Thread of all kinds.

Coats, J. & P.; Manufacturers of Sewing Cotton; *Ferguslie Thread Works, Paisley.*

Sewing Cotton.

Crowdson, Crosses, & Co., Limited; Cotton Spinners and Manufacturers; 40, *Portland Street, Manchester. Works, Bolton, Lancashire. (Paris Agent, Mons. J. Guiton, 5 and 7, Rue Haute Ville.)*

White Calicoes, comprising Mediums, Double Warps, Fine Shirtings, Stout Shirt Cloths and Twills.

The Dacca Twist Co.; Cotton Spinners, Manufacturers, Bleachers, Dyers, Finishers, General Warehousemen, and Shipping Merchants; 96 to 104, *Portland St., Manchester. Works: Manchester, Bolton, Wigan, Gorton, Crawshawbooth, Heapey, Chorley, Horwich Vale, Swinton, Walkden, Crewe, &c.*

Cotton Piece Goods:—Grey, bleached, and dyed Domestic, Sheetings, Twills, Printers' Shirtings, Cambrics, Dimities, Quiltings, Toilets, Satteens, Damasks, Brocades, Satins, Regattas, Nankeens, Ticks, Oxfords, Harvards, Grandrills, Turkey-red Twills, Printed Silesias, Serges, &c., Beetled Silesias, Jeanetts, Chested Stouts, Drop Pocketings, Permanent Twills, Sunshades, &c. Sewing and Crochet Cottons. Braids, Smallwares, Braces, Waddings, Tapes, Cords, Umbrellas, &c.

Dewhurst, John, & Sons; Cotton Spinners and Sewing Cotton Manufacturers; *Belle Vue Mills, Skipton.*

Sewing Cotton (finished and in various stages of its manufacture).

Ermen & Roby; Spinners, Doublers, Bleachers, Dyers and Polishers of Cotton Thread (Holders of Godfrey Ermen's Patent); 7, *Southgate, Manchester.*

Patent Diamond polished Thread, for manufacturing elastics, ribbons, dress goods, &c. Knitting, and Crochet Cotton. Sewing Cotton, 6 cord and glacé, on spools for machine and hand sewing; also on cards, and in balls and skeins. Patent thread for shoemakers.

Evans, Walter, & Co.; Cotton Manufacturers; *Boar's Head Cotton Manufactory, Derby.*

Cotton thread on spools, in skeins, on cards, and in balls.

Ferguson Brothers; Spinners, Manufacturers, Bleachers, Dyers, and Finishers; *Holme Head Works, near Carlisle.*

Plain and Brocaded Dyed and Printed Cotton Satteens.

Greenhalgh & Sons; Cotton Manufacturers and Dyers; *Field Mill, Mansfield, Notts.*

Double and Single Cotton Yarns, grey, bleached, and dyed, suitable for the lace, hosiery, ribbon, velvet, and fancy trades.

Hall, Lawrence; Spinner and Manufacturer; 53, *Mosley St., Manchester, and Black Lane, Radcliffe, near Manchester.*

White Vestings. White Quiltings. White Welts. White Diamond Quiltings. White Tennis Cloth. White Donau Cloth. White Nuttalline Stripes. White Oriental Stripes. White Antique Brochedines. Dyed Costume Cloths. Honeycomb Covers.

Hall, Ralph, & Co.; Merchants, Manufacturers, and Dyers; 15, *Chorlton St., Manchester. Works, Oldham, Lancashire. (Paris, 2, Rue d'Aboukir.)*

Cotton Velvets and Velveteens in various shades including Amethyst Black and Blue Black for costumes, trimmings, &c. Cotton Cords and Moleskins for clothing. Dyed and Printed Lambkins, Satins, Twills, Serges, and Cambrics for linings. Umbrella Cloths. Cotton Fabrics of all descriptions used by waterproofers.

Hawkins, John, & Sons; Cotton Spinners and Manufacturers; 8, *Faulkner St., Manchester, and 18, Walling St., London.*

White Cotton Calicoes, plain and twilled, White Cotton India Twills and Brown Unions.

Holland, William, & Sons; Cotton Spinners and Doublers; *Victoria Mills, Miles Platting, Manchester.*

Combed Cotton Yarns, Single, Double, 3, 6, and 9 Cord, suitable for manufacturers of muslins, mixed fabrics, sewing thread, &c. Single Yarns for muslins and doubling purposes. Sewing and Crochet Cotton 3, 4, 6, and 9 cord, cable laid, in bundle. Hosiery Yarn, 2, 3, 4, 5, and 6 threads. Throstle and Double Spun Yarns gassed in warp or bundle, gassed or plain. Double Yarns for mixed fabrics in cop, warp, or bundle, gassed and prepared and super extra soft twists.

Horrockses, Miller, & Co.; Cotton Spinners, Manufacturers, and Merchants; *Preston, Manchester, and 9, Bread St., London. (Agent in Paris, G. Hadfield, 92, Rue d'Hauteville.)*

White Cotton Long Cloths. Cambrics. Twilled Shirtings. Plain and Twilled Sheetings.

Johnson, Jabez, & Fildes; Manufacturers and Inventors; 44, *Spring Gardens, Manchester. Works, Moor Mills, Bolton, Lancashire.*

White and Coloured Toilet and Fringed Honeycomb Quilts. Marseilles and Bolton Quilts. Counterpanes, Alhambras, Toilet Covers, Toilettings. White and Coloured Quiltings. Diamonds and Piques for Dresses and Vestings. Damask and Furniture Dimities. Table Covers, D'Oylies, and Finger Napkins. Brocades, Dress Goods, Muslins, Linen and Cotton, Turkish, Huckaback, Honeycomb, and Fancy Towels, Terry Cloth, and Towelling. Printed Damasks and Galatea Stripes. Raised Swansdown Twills and Perched Quiltings.

Mitchell & Whytlaw; Manufacturers; 78, *Queen Victoria St., London*; 84, *Ingram St., Glasgow.*

Fancy Coloured Goods, in Cotton, Linen, Woollen, and Mixed Fabrics.

Patent Velvet Company; Manufacturers of Cotton Velvet, Velveteens, &c.; Inventors and Patentees; 1, *Peter St., Manchester.* (*Agent in Paris, P. H. Kiener, 28, Rue du Sentier.*)

Dyed Cotton. Patent Velvets and Velveteens. Dyed Cotton Cords. Dyed and Printed Cotton Moleskins.

Schwann, Modera, & Co.; Manufacturers and Merchants; 117, *Portland St., Manchester.*

Velvets, Velveteens, Cords, Moleskins, Plushes, and other Cotton Fabrics.

Stirling, William, & Sons; Turkey Red Dyers and Calico Printers; *Renton by Glasgow.*

Turkey Red Scarves, Shirtings, Prints, Chintzes, Twills, Twists, Brocades, &c.

Swainson, Birley, & Co.; Cotton Spinners and Manufacturers; *Fishwick Mills, Preston, Portland St., Manchester, and 5, Goldsmith St., City, London.*

Long Cloths, Heavy Shirtings, Mediums, and Plain and Fancy Muslins, &c.

Tootal-Broadhurst, Lee, & Co.; 56 to 62, *Mosley St., Manchester*; 24, *Well Street, Bradford*; and 28, *Friday Street, London. Works, Sunnyside Mills, Bolton, and Ten Acres Mills, Newton Heath.* (*Paris, 42, Rue des Jeuneurs.*)

Cotton Fabrics. Worsted Fabrics. Silk and Cotton Fabrics. Silk and Worsted Fabrics. Silk and Woollen Fabrics. Cotton and Woollen Fabrics. Printed Cotton Fabrics.

Vernon & Freemantle; Cotton Spinners; *Piccadilly Mills, Manchester.*

Cotton Yarn in cop and hank from 140° to 380° English counts.

Waters, J. & E., & Co.; Sewing Cotton, Smallware, and Braid Manufacturers; *Talbot Mills, Ellesmere St., Hulme, Manchester.*

Sewing Cottons on Spools and in Balls, Knitting Cottons, &c. Smallware both in Cotton and Worsted. Worsted and Cotton Braids, &c.

Williams, Sons, & Brookes; Coloured Cotton Manufacturers; 12, *Birchin Lane, Manchester. Works, Whitfield and Openshaw, near Manchester.*

Coloured Cotton Goods, Oxfords, Harvards, &c., &c.

Wood & Brearley; Manufacturers, Inventors; *Beehive Mill, Bolton, and Palace St., Manchester.*

Bed Quilts, Toilet Covers, and Fancy Towels.

CLASS 31.—THREAD AND FABRICS OF FLAX, HEMP, &c.

Flax, hemp, and other vegetable fibres spun.

Linen and drills. Cambric. Linen fabrics mixed with cotton or silk.

Fabrics made from vegetable fibres as substitutes for flax and hemp.

Andrews, Michael; *Ardoyne, Belfast.*

Table Linen specially designed and manufactured for the Pavilion of H.R.H. the Prince of Wales, President of the Royal Commission.

Anglo-American Rope & Oakum Company; Oakum Manufacturers; 72, *South Castle St., and 12, Hopwood Street, Liverpool.*

Oakum, manufactured and spun by machinery, for caulking ships. Marine Lint for surgical purposes.

Barbour, William, & Sons; Spinners of Linen and Hemp Yarns, &c.; *Hilden Flax Mills, Lisburn, Ireland.*

Linen Thread in hanks, ball, and on spools. Shoe Thread in balls. Gilling Thread and Netting Thread. Linen Yarns. Hemp Yarns.

Barron, W. J., & Sons; Manufacturers of Shoe-Mercery, and Grindery; *Eagle Shoe-Mercery Works, Whitecross St., London (Paris, 2, Rue Francaise).*

Shoe-Mercery :—Boot Webs, Eyelets, Rivets, Sewing Threads, Elastic Webs, Linings, &c.

Barrow Flax & Jute Company, Limited; Spinners, Dyers, and Manufacturers; *Barrow Flax and Jute Works, Barrow-in-Furness, Lancashire.*

"Kalamait," Fabrics prepared, woven, dyed, and printed out of jute by patented process.

Bonsor, Charles; China Grass Comber and Spinner, Silk Dresser and Spinner; *Phoenix Works, Ings Road, Wakefield.*

Sample of China Grass (French China Grass or Ramie) in raw state, and various processes of manufacture. Samples of Yarns and various Fabrics for which this material is employed. Spun silk, machine and hand sewing yarns. Lace, Hosiery, and other Yarns used in textile fabrics. (See also Class 34.)

The County Down Flax Spinning and Weaving Co., Limited; (*Preston, Smyth, & Co. and Moreland Brothers, Amalgamated*), *Donegall Square South, Belfast. Works, Loopbridge Mills, County Down, Ireland.*

Linens in the loom, dyed and bleached states. Linen Handkerchiefs in the bleached state. Linen Yarns, &c.

Dawson, Mark, & Son; *Springhead Mills, Bowling, Bradford.*

Various kinds of Yarn made from Rhea or China Grass, both in the grey and dyed state, including sewing or machine threads from the same.

The Greenmount Spinning Co.; Linen and Cotton Manufacturers and Merchants; 44, *Upper Queen St., Belfast. Works, Greenmount Factory, Harold's Cross, Dublin.*

Table Linens, Linen and Cotton Damasks, Sheetings, Glass and Tea Cloths, and Towels. Linen and Union Diapers. Towellings, Drills, and other linen and cotton goods for domestic and clothing purposes.

Guynet, L. H., & Co.; Linen Merchants and Manufacturers; 10, *Chichester St., Belfast. Works, Lurgan Old Park and Portadown, Ireland. (Paris House, H. Guynet et Cie., 33, Rue du Sentier.)*

White Linen and Cambric Handkerchiefs. Printed Linen and Cambric Handkerchiefs. White and Printed Linens and Unions. White, printed, and dyed Dress Linens.

Jaffé Brothers; Manufacturers and Bleachers; *Belfast. Works, Banford, Gilford, Ireland. (Agent in Paris, E. Silz, 12, Rue des Jeuneurs.)*

Irish Linens and Handkerchiefs, unbleached, bleached, and printed.

The Liverpool Spun Oakum Company; Oakum Manufacturers; 9, *North John St. Works, 3, Beacon St., Liverpool.*

Archibald's Patent Machine Spun Oakum ready for caulking. Machine-made Oakum unspun. "Stypium," a pure antiseptic dressing for surgical and medicinal purposes.

Marshall & Co.; Flax Spinners, Linen and Thread Manufacturers; *Leeds and Shrewsbury.*

Linen Threads, Linen Piece Goods.

Murphy, Joseph, & Son; Manufacturers and Bleachers of Damask Table Linen, &c.; 14, *Linen Hall St., Belfast, and 11 and 12, Milk St., London. Manufactory, Lurgan, Ireland.*

Damask Table Linen, Birdeye and Fancy Diaper, Sheetings, Shirting Linen, Colored and Fancy Table Linen, Cambric Handkerchiefs.

Murphy & Reynolds; Flax Spinners; *Drumcainne Mills, Armagh, Ireland.*

Linen Yarn.

Rothenheim, Sigmund; Inventor and Manufacturer of Pineoleum Panama, and Fiji Fabrics; 166, *Euston Road, London.*

Pineoleum, Panama and Fiji, being Fabrics of open texture woven of Pine, Panama Straw, and Rush from the Fiji Islands. Articles made therefrom, Blinds, Screens, Mats, Hats, Respirators, Chest Protectors, Abdominal Belts and Shoe Soles.

Ullathorne & Co.; Flax Spinners and Shoe Mercers; 9, *Gate St., London. Works, Barnard Castle, Durham.*

Shoe Threads, and materials for the manufacture of boots and shoes, and for saddlers' and curriers' use.

Wilford, John, & Sons; Linen Manufacturers; *Brompton, near Northallerton, Yorkshire.*

Plain and Fancy Linen and Union Drills, White and Coloured.

York Street Flax Spinning Company, Limited; Flax Spinners and Manufacturers; *Belfast, Ireland. (Agent in Paris, William Crawford, 38, Rue des Jeuneurs.)*

Flax, Linen Yarns, and Linen Fabrics.

CLASS 32.—WORSTED YARN AND FABRICS.

Combed wool, worsted yarn.

Mousselines de laine, Scotch cashmere, merinos, serges, &c.

Ribands and laces of wool, mixed with cotton or thread, silk, or floss silk. Hair tissues, pure or mixed.

Akroyd, James, & Son, Limited; Worsted Spinners and Manufacturers; *Halifax, Yorkshire.*

Worsted Yarns, both single and folded. Genappe or gassed yarns. Camel-hair Hosiery, Knitting, and Stocking Yarns. Worsted Coatings. Fancy Dress Goods, &c.

Binns' Patent Endless Band Company, Limited; Inventors and Manufacturers of Endless and Fancy Cords, Endless and Double Looped Spindle Bands; *Oak Mills, Loumoor, near Bradford, Yorkshire.*

Picture Cords in silk, wool, and cotton. Trimming Cords in silk, wool, and cotton. Wool and Silk Trimming Cords. Endless and Double-looped Window Blind Cords; and Curtain Loops and Fixings.

Donisthorpe, A. R. ; Spinner and Manufacturer ; *Leicester.*

Worsted and Lamb's Wool Yarns. English and Foreign Knitting, Cashmere, Fingering, Fleecy, Carpet, Embroidery, Merino, Cotton and other Yarns, China Grass Fabrics, Shetland Shawls, Squares, Ties, &c. Hosiery and Fancy Articles.

Dorrington, B., & Co. ; Merchants ; 42 and 43, *Gutter Lane, London.*

China Camlets, plain colours. Black and coloured Lustres, all made of English yarn. Buntings for Flags.

Foster, John, & Son ; Spinners and Manufacturers ; *Black Dike Mills, Queensbury, near Bradford.*

Ladies' Dress Goods, Coatings, and Linings, consisting of Alpaca and Mohair Brilliantines, Glaces, Lustres, Serges, Twills, Figures, and Mantle Cloths. Single and Two-fold Worsted, Alpaca, and Mohair Yarns. Mohair and Worsted Genappes.

Foster, William & Henry ; Worsted Spinners and Manufacturers ; *Denholme Mills, near Bingley, and Well St., Bradford, Yorkshire.*

Union and Worsted Serges de Berri.

Haley, Alfred, & Co. ; Worsted Spinners and Manufacturers ; *Bradford, Yorkshire.*

Coloured, Mottled, Mixture, Melangé, Coating, Lustre, Demi-lustre, and Fancy Yarns.

Priestman, John, & Co. ; Spinners and Manufacturers ; *Bradford, Yorkshire.*

Worsted Goods, including Silk Warp Paramattas, Princettas, Persian Cords, and other cords. Coburgs, Double Warp Yarn Dyed Paramattas, Italian Cloth, plain and fancy, all Wool Coatings, &c. Wool, Tops, Noils, and Yarns, suitable for Worsted Trade. Cotton Cops, and Cotton on Bobbins and Warps, Silk on Bobbins and Silk Warps.

Scarborough Brothers ; Worsted Spinners and Manufacturers ; *Trafalgar Works, Halifax.*

Knitting, Fingering, and Fringe Yarns, Fleecy, Berlin, Merino, and Andalusian Wools, Worsted Yarns for Warp and Weft. All kinds of plain and fancy Dress Fabrics, Worsted Coatings, and Mantle Cloths, Damasks (Union and Worsted), and Reps for hangings and furniture.

Smithson, Joseph, & Co. ; Manufacturers and Printers of Worsted Dress Stuffs ; *Brunswick Mills and Park Print Works, Halifax, Yorkshire.*

Dress Stuffs, printed fast colours, and warranted not to cockle.

Stanfeld, Brown, & Co. ; Merchants and Manufacturers ; *Bradford, Yorkshire.*

Lastings and Serges de Berri, used in the manufacture of Boots and Shoes.

Tankard, James ; Worsted Spinner ; *Upper Croft Mill, Bowling, Bradford, Yorkshire.*

Raw Wool, Tops, Yarn.

CLASS 33.—WOOLLEN YARN AND FABRICS.

Carded wool and woollen yarn.

Cloth and other woollen fabrics.

Blankets. Felt of wool or hair for carpets, hats.

Shoes.

Woollen fabrics unmilled, or slightly milled; flannel, tartans, swansdown.

Alexanders & Co.; Woollen Manufacturers; *Weensland Mills, Hawick, Scotland.*

Scotch Tweeds for Ladies' and Gentlemen's Clothing, and Mauds or travelling Plaids.

Armitage Brothers; Woollen Manufacturers; *New Street, Huddersfield.*

Woollen and Worsted Coatings.

Barber, Joshua, & Sons; Fancy Woollen Manufacturers; *Holme Bridge, Huddersfield.*

Fancy Worsted Coatings. Fancy Woollen Coatings and Trouserings.

Birchall, J. D., & Co.; Woollen Manufacturers; *Wellington St., and Burley Mills, Leeds.*

Woollen and Worsted Fancy Coatings.

Bliss, William, & Son; Fancy Woollen Manufacturers, Inventors; *Chipping Norton, Oxfordshire.*

Tweeds of all kinds. Saddler's Woollens of all kinds. Serges for Civil, Naval, and Military purposes. Coatings, in great variety, Railway Rugs, Travelling Mauds, Ladies' Shawls, and Cloakings.

Bogue, Lees, & Co.; Woollen Manufacturers; *Comely Bank Mill, Galashiels, Scotland.*

All Wool Scotch Tweeds.

Brier, George; Woollen Manufacturer; *Canal Bridge Mills, Huddersfield.*

Fancy Woollen and Cheviot Coatings, and Serges unmilled and slightly milled.

Brook, J. & D.; Woollen Manufacturers; *4, Park Place, Leeds; Works, Albert and Prospect Mills, Morley, near Leeds.*

Union Meltons.

Brooke, James, & Son; Woollen Manufacturers; *Bradley Mills, and Estate Buildings, Huddersfield.*

Worsted Coatings and Trouserings. Woollen Trouserings. Black and Blue Diagonals and Venetians. Drab Bedford Cords. Black Doeskins.

Brown Brothers; *Buckholm Mill, Galashiels, Scotland.*

Scotch Tweeds.

Brown, Linstead, & Co.; Woollen Manufacturers; 137, *Cheapside, London. Works, 4, Duke St., Manchester.*

Woven Seal Skin Travelling Rugs, dyed and printed. Cloth Travelling Rugs. Saddle Mats. Couch and Chair Covers.

Brown, Wm., & Sons; Woollen Manufacturers; *Wilderbank Mills, Galashiels, Scotland.*

Scotch Tweeds.

Brown, John; Manufacturer of Woollen and Bedford Cords; *Lion Mills, Bay Hall, Huddersfield.*

Woollen Cords, woven with races or floating spools into which knives are introduced and the floating threads are cut; the out threads are then piled or raised to an upright position, thus making a piled fabric somewhat like a velvet, but with a ribbed appearance. Bedford Cords; in these the ribs are woven and not obtained by cutting and piling.

Brydone & Brown; Woollen Yarn Manufacturers; *Yarrow Mill, Selkirk, Scotland.*

Woollen Yarns for Scotch Tweeds and for other fabrics.

Bull & Wilson; Cloth Merchants; 52, *St. Martin's Lane, London. (Paris, 12, Rue Monsigny.)*

All English Manufactured Woollen and Cotton Fabrics used by clothiers.

Byrom, Robert; Woollen Manufacturer; *Slackcote Mills, Delph, near Manchester.*

Woollen Shawls. Travelling or Carriage Rugs.

Carr, Isaac, & Co.; Woollen Manufacturers; *Twerton Mills, Bath.*

Single Milled and Treble Milled Miltons. Elysian and Patent Beavers. Sable and Fur Beavers. Sardinians. Oxonians. Oriental Twills and Fancy Coatings. Waterproofed Tweeds.

Child, William; Fancy Woollen Manufacturer; *Shelley, near Huddersfield.*

Imitation Sealskins. Astracan Cloths, &c., of Woollen Mohair and Cotton.

Clark, John & Thomas; *Trowbridge, Wiltshire.*

Coatings and Trowserings.

Clegg, Jesse; Woollen Manufacturer; *King's Head Buildings, Cloth Hall, Huddersfield. Works, Engine Bridge Mill, Folly Hall, Huddersfield.*

Fancy Cheviots and Tweeds for Suits and Ulsters.

Cochrane, Adam L., & Brothers; Woollen Manufacturers; *Netherdale, Galashiels, Scotland.*

Scotch Fancy Tweeds.

Dalsiel, James, & Co.; Woollen Manufacturers; *Tweedholm Mills, Walkerburn, Peeblesshire, Scotland.*

Scotch Tweeds for Gentlemen's wear.

Denham, J. W., & Co.; Worsted Manufacturers; *Britannia Mills, Colne Road, Huddersfield.*

Fancy Medium Worsted Coatings.

Dodgahun, Isaac, & Co.; Woollen Manufacturers; 86, *Basinghall St., and Mount Mills, Leeds.*

Meltons, Pilots, Union Cloths, and Print Meltons in broad cloths.

Dyson, Joseph, & Sons; Woollen Manufacturers; *Milns-bridge, near Huddersfield.*

Worsted, Venetian, Moscow, Beaver, Pilot, Diagonal, and Satarra Coatings. Woaded Black Doe, and Prunella.

Fraser & Smith; Woollen Warehousemen, Designers; *Inverness, Scotland.*

Scotch Homespun, named District, and other Tweeds, Railway Wrappers, Clan Tartans, &c.; Mauds.

Gledhill, Thomas; *Huddersfield.*

Woollen Cloths.

Haigh, George; Woollen Manufacturer; 21, *Upperhead Row, Huddersfield. Works, Brook Mills, Slaithwaite, Huddersfield.*

Fancy Woollens.

Hargreave & Nusseys; Worsted and Woollen Manufacturers; *Boar Lane, Leeds. Works, Farnley Low Mills, Farnley, near Leeds.*

Worsted Coatings and Cloakings. Woollen Coatings and Overcoatings.

Hepworth, B., & Sons; Manufacturers; *New Wakefield Mills, Dewsbury.*

Carriage, Railway, and Travelling Rugs in variety of style and texture; Mantle-cloths, Sealskins, &c.

Hewitt & Kemp; Woollen Manufacturers; *Innox Mill, Trowbridge, Wilts.*

Meltons. Twilled, Ribbed, and Fancy Coatings, Beavers, Venetians, &c.

Hooper, Charles, & Co.; Woollen Manufacturers; *Eastington Mills, Stonehouse, Gloucestershire.*

Superfine Cloths, black, blue, &c., Superfine Military Cloths, scarlet, &c., &c. Superfine Livery Cloths, and Carriage Cloths. Coatings, various. Trouserings and Suitings. Hooper's Elastics, &c., &c. Elysians and Beavers. Gloving Cloths and Fine Flannels.

Hudson Sykes, & Bousfield; Woollen Manufacturers; *Wellington St., Leeds, and Springfield Mills, Morley, Leeds.*

Union Cloths. Cotton Warp Coatings, Cloakings and Worsteds.

Incorporated Chamber of Commerce; *Huddersfield.*

Plain and Fancy Woollens, exhibited by the Huddersfield Woollen Manufacturers' Association.

Johnston, James, & Co.; Woollen Manufacturers; *Newmill, Elgin, Scotland.*

Vicuna Shawls. Tweeds and Reversible Cloths. Woollen Tweeds, Mauds, and Rugs.

Jones, Pryce; Manufacturer and Inventor; *Newtown, North Wales.*

Welsh Flannel, Shawls, Tweeds, Homespun, Yarns. Made up Clothing for the poor and public institutions. Patent Euklisia Blankets for army, camp, and travelling purposes.

Labron, John; Woollen Manufacturer; 46, *Park Square, Leeds.*

Uniform and Carriage Cloths.

Lord, E., & Co.; Flannel Manufacturers; *Rocks Mill, Small-bridge, Rochdale. (Agent in Paris, Romain Weiss, Faubourg Poissonnière, 32.)*

White and Coloured, Plain, all-Wool Flannels. Saxony Scarlets, Electorals, and Imitations.

Lupton, William, & Co.; Woollen Cloth Merchants and Manufacturers; *Wellington Street, Leeds.*

Plain and Fancy Mediums, Coatings, and Carriage Cloths.

McLaurin, Peter, Son, & Co.; Scotch Tweed Manufacturers; *Langholm, Dumfriesshire.*

Scotch Tweeds. Black and Blue Cheviots, &c.

Mahony Martin & Brothers; 3, *Camden Quay, Cork, Ireland; Works, Blarney Tweed Factory, Co. Cork.*

Double warp all wool Tweeds, and Mangerton Tweeds. Indigo-blue Tuskar Boating Serge. Worsted Coatings. Mangerton Railway Wraps.

Marling & Co.; Woollen Cloth Manufacturers; *Ebley and Stanley Mills, Stroud, Gloucestershire.*

Superfine Cloths, Beavers, Meltons, Elastics, Venetians, Doeskins, Cassimeres, &c.

Mellor, Thomas, & Son; Fancy Woollen Manufacturers; *Thongs Bridge Mills, near Huddersfield.*

Black and Blue Worsted Coatings, Worsted Coatings in fancy mixed colourings. Fancy Worsted trouserings. Fancy Woollen Tweeds in coatings and trouserings, and cheviots.

Mitchell, Coats, & Co.; Manufacturers; *Tweed Place Mills, Galashiels.*

Scotch Tweed trouserings and suitings, and Fancy Worsted Trouserings and Coatings.

Neave, S., & Sons; Wool Carders and Felt Manufacturers; 7, *Peel St., Manchester.*

Washed and Carded Wools, white and coloured, prepared for felting. Felt Hat bodies and other Felts.

Paton, J. & D., & Co. ; Woollen Manufacturers ; *Tillicoultry, Scotland.*

Woollen Shawls, Scotch Tweeds, &c.

Porter, H. G., Co. ; 43, *Bow Lane, London.* *Works, Harris Saint Kilda, and Shetland Islands, Scotland.*
(Agents in Paris, *A. Charbonné & Cie.*, 30, *Rue Notre Dame des Victoires.*)

Highland Homespun and Hand-loom-woven Tweed and Costume Fabrics. Vicugna, Cashmere, Cheviot, and Botany Wool Dress Materials.

Ritchie, Alfred, & Co. ; Woollen Manufacturers ; *Ham Mills, Stroud, Gloucestershire.*

Black, Blue, and Fancy Coloured Coatings.

Ross, Wm., & Sons ; Woollen Manufacturers ; *Brookfield Mills, Alva, Scotland.*

Woollen Shawls, Handkerchiefs, and Tartan piece goods.

Salter, Samuel, & Co. ; Woollen Manufacturers ; *Home and Duke St. Mills, Trowbridge, Wiltshire.*

Plain and Fancy Trouserings, and Coatings in Wool and Silk Mixture.

Sanderson, Hugh, & Son ; Woollen Manufacturers ; *Dean Bank Mill, Galashiels, Scotland.*

Scotch Tweed Trouserings and Suitings.

Sanderson, R. & A., & Co. ; Woollen Manufacturers ; *Gala Mills, Galashiels, Scotland.*

Scotch Tweeds and Mauds :—Cheviot and Saxony qualities. Winter and Summer substances.

Shaw, John, & Co. ; Woollen Merchants ; 18, *John William St., Huddersfield.*

Fabrics for Overcoats, Jackets, and Trouserings. Suitings in Cheviot fine wool and carded wool. Alpaca and Pachas for men and women's clothing, and for linings.

Sheard, Michael, & Sons ; Woollen Manufacturers ; *Batley, Yorkshire.*

Army and other Woollen Cloths.

Smith, Robert, & Son ; Woollen Manufacturers and Spinners ; *Park Vale and Hayford Mills, Stirling, Scotland ; and 37, Glasshouse Street, Regent Street, London.*

Scotch Tweeds and Cloths.

Stanton & Son ; Woollen Cloth Manufacturers ; *Stafford Mills, Stroud, Gloucestershire.*

Specimens of Superfine Cloths, Billiard Cloths, Hunters, Coatings, Doeskins, &c.

Stubley, George & James ; Woollen Manufacturers ; *Bottoms Mills, Batley, and Calder Mills, Wakefield, Yorkshire.*

Heavy Woollens, viz., Beavers, Presidents, Pilots, Naps, Witneys, Friezes, Fur Coatings, Cheviots, Mantlings, Velvets, &c.

Sykes, Godfrey, & Son; Manufacturers of Astracans, Seal-skins, and Fancy Mantle Cloths; *Mold Green, Huddersfield.*

Samples of different kinds and qualities of Woven Sealskins, Polarians, Astracans, for Ladies' Mantles and Trimmings.

Taylor & Co.; Woollen Manufacturers; *Holme Mill, Golcar, near Huddersfield.*

Fancy Woollen Fabrics.

Taylor & Littlewood; Manufacturers and Inventors of Cloths; *Newsome Mills, near Huddersfield.*

Woollen, Worsted, and Silk Cassimeres, of $\frac{3}{4}$ and $\frac{1}{2}$ widths, and very fine $\frac{3}{4}$ Worsted Coatings.

Taylor, J. T., & Co.; Woollen Manufacturers; 10, *John William St., Huddersfield*; *Works, Ribblesden Mills, Holmfirth, near Huddersfield.*

Woollen Cloths.

Thomson, William, & Sons; Woollen Cloth Manufacturers, Inventors; *Huddersfield.*

All Wool Cloths for Coatings and Trouserings.

Trenchard, George, & Co.; Woollen Cloth Manufacturers; *Winsham, Somerset.*

All Wool Drab Devons, or Box Cloths for Coachmen's Overcoats. Various shades in Drab, Blue, Brown, &c.

Turner, J. Brooke, & Co.; Fancy Woollen and Worsted Manufacturers; *Albert Mills, Albert St., Lockwood, Huddersfield.*

Fancy Fabrics of Woollen and Worsted.

Watson, William, & Sons; Tweed Manufacturers; *Dangerfield Mills, Hawick, Scotland.*

Scotch Tweeds and Coatings from Yarns of our own manufacture.

The Welsh Woollen Manufacturing Company, Limited; *Newtown and Llanidloes, Montgomeryshire, North Wales.* (Agent in Paris, *B. W. Lucas, 19, Rue Paul Lelong.*)

Welsh Tweeds, Woollen Shirtings, and Flannels.

Whitehead, R. E., & Brothers, Limited; Felt and Cloth Manufacturers, Inventors; 10, *Endell St., Long Acre, London*; and *Wandle Felt Works, Mitcham, Surrey.*

White and Coloured Felts for hammers and dampers of pianofortes; Felts and Cloths for the mechanical parts of same.

Willans, Thomas B., & Co.; Flannel Manufacturers; 19, *Lawrence Lane, City, London*; and *Vale Mills, Rochdale, Lancashire.*

Domestic Flannels of all descriptions. White and dyed Saxony Electorals for under clothing. Fancy Woven and Printed Flannels for shirtings and morning costumes. Army and Navy Flannels.

CLASS 34.—SILK AND SILK FABRICS.

Raw and thrown silk. Floss silk yarn.
 Silk fabrics, pure, plain, figured, brocaded. Silk fabrics mixed
 with gold, silver, cotton, wool, thread.
 Manufactures of floss silk, pure or mixed.
 Velvet and plush.
 Silk ribands, pure or mixed.

Adams & Co.; Silk (Embroidery) Manufacturers; 56A, *City Road, London.* *Paris, 52, Rue Billault.*
 Knitting, Embroidery, and Filoselle Silks.

Andrew, Burrowes, & Attkins; Silk Manufacturers; 59, *George St., Manchester*; 18, *Bread St., London.*
Works, Wellington Mill, Macclesfield. (*Agents in Paris, Patte, Frères, 10, Rue des Jeuneurs.*)
 Silk Handkerchiefs, Scarfs and Dress Goods.

Ashworth, M., & Co.; Silk Spinners; *Caldershaw Silk Mill, Rochdale.*

Silk Yarns, made from waste silk, in all states of progress, from the waste silk to silk yarn, suitable for the manufacture of lace, hosiery, ribbons, velvets, embroidery fringes, fancy dress goods, &c., &c.

Barbour & Miller; Manufacturers; 139, *Brook St., Mile End, Glasgow,* and 16, *Paternoster Square, London.*

Silk and Wool Tapestry, panelled curtains in early English, Indian, &c., designs, in three to ten colours. Piece goods of the same fabric.

Behrens, Louis; Manufacturer; 41, *Portland Street, Manchester.*

Black and Coloured Velvets, Velveteens, Cord and Moleskins. Silk-faced Velvets.

Birchenough, John; Silk Manufacturer; 145, *Cheapside, London,* and *Park Lane Mills, Macclesfield.*

Figured and Plain Cutups and Dress goods; Figured and Plain Ladies and Gentlemen's Scarfs and Mufflers; Fancy Handkerchiefs, Surats of all sizes. Spun Silk and Mixed Dress Goods, Scarfs, Mufflers, &c. Raw and Thrown Silks.

Bonsor, Charles; China Grass Comber and Spinner, Silk Dresser and Spinner; *Phoenix Works, Ings Road, Wakefield.*

Spun-silk Machine and Hand-sewing Yarns. (Exhibited in Class 31.)

Brocklehurst, J. & T., & Sons; Silk Manufacturers and Waste Silk Spinners; *Macclesfield, Cheshire,* and 83, *Milk St., London.*

Silk Handkerchiefs and Scarves, Thrown Silk and Spun Silk Yarns.

Brough, J. & J., Nicholson, & Co.; Manufacturers; *Leek, Staffordshire, and 30 Milk St., Cheapside, London.*

Manufacturers of Hand and Machine Sewing Silks and Twists of every description; Cotton Braids, Tailors' Mohair and Silk Braids; Worsted and Mohair Costume Braids and Trimmings, Cotton and Silk twilled bindings, Galloons, Ferrets, Boot Webs, Stay bindings, &c., &c.

Clabburn, Sons, & Crisp; Manufacturers, Inventors; *Pitt St., Norwich.*

Silk Warp Paramattas and other Mourning Fabrics. All Silk and various mixed Textile Fabrics for Ladies' Dresses. Silk Scarves and Mufflers. Tapestries, Table Covers, Rugs, and other Fabrics for Furniture.

Clayton, Marsdens, Holden, & Co., Limited; Silk Spinners; *Wellington Mills, Halifax, Yorkshire.*

Waste Silk, and specimens in various stages of preparation. Spun Silk Yarns and Twists. Woven Fabrics made of Spun Silk.

Cornes, W. W., & Co.; Silk Manufacturers, Inventors; *Park Mills, Macclesfield.*

Figured Damasks; Surats, all sizes; plain and figured Mufflers; plain and figured Handkerchiefs; plain and figured Ladies' Scarves) exhibited in Messrs. D. Evans & Co.'s case).

Courtauld, S., & Co.; 19, *Aldermanbury, London. Works, Braintree, Halstead, Bocking, and Chelmsford, Essex.*

Silk Crape and Aerophanes, black and coloured, and black Crape Veils.

Critchley, Brinsley, & Co.; Silk Manufacturers, Inventors; *Bridge Street, Macclesfield.*

Silk Scarves and Handkerchiefs for ladies' wear. (Exhibited in Messrs. D. Evans & Co.'s case.)

Dean, William, & Son; Elastic Web Manufacturers; *Monk St. Mills, Derby.*

Elastic Webs of guaranteed Pure Silk. Patent Victoria Elastic Gaiter Boots.

Evans, David, & Co.; Silk Manufacturers; 1, *Wood St., Cheapside, London. Works, Aylesbury, Crayford, Macclesfield.*

Silk and Printed Silk Handkerchiefs. Silk Scarves. Tussorees. Printed Silk Quilts.

Gibson, S., jun.; Silk Manufacturer; *Wellington Mill, Leek, Staffordshire. (Agent in Paris, M. May, 14, Rue Thevenot.)*

Sewing Silks. Tailors' Twists. Machine Twists. Embroidery. Deccas. Floss. Filoselle. Spun Machine Twists. Spun Sewings, &c.

Grout & Co. ; Manufacturers ; 12, Foster Lane, Chesham, London.

Black and Coloured Silk Crape, Crape Veils, Fancy Scarfs, and Handkerchiefs, manufactured entirely from Silk subjected to a peculiar mode of treatment. The Crape can be dyed any colour.

Hadwen, Jno., & Sons ; Silk Spinners ; Kebroyd Mills, near Halifax, Yorks.

Waste Silk Specimens. Waste Silk in the various processes, for spinning yarns. Specimens of Lace, Velvets, and Cloth made from Spun Silk.

Hilditch, G. & J. B. ; Silk Manufacturers, Inventors and Makers of the Double Satin Twill and Duplex Corded Silk ; 11 & 12, Cheapside, and 41, Old Change, London.

Black Duplex Corded Silks and Double Satin Twills of absolutely pure dye. Coloured Satin Twills, Satins, Flag Silks, &c.

Holme, George ; Manufacturer ; Bath St. Mills, Derby, and 37, Booth St., Bradford, Yorkshire.

Silk, Wool, and Cotton Elastic Webs for Boot gussets, various styles. Union and all worsted Serges de Berri and Lastings for Boots. (See also Indian Section.)

Jackson, J. & F. ; Silk Manufacturers ; Sutton Mills, Macclesfield.

Silk Goods (pure). Mufflers. Handkerchiefs. Surats. Tissues. Ladies' Scarfs, &c.

Kay & Richardson ; Manufacturers, Inventors ; 39, Gutter Lane, London, Paris, 36, Rue d'Enghien.

Black Crape for mourning attire. The newly invented Rain-proof Crape, guaranteed not to spot with rain.

Lloyd, Attree, & Smith ; Manufacturers ; 32 & 33, Wood St., London.

Gentlemen's Scarfs, Cravats, Collars, Shirts, &c.

Nicholson, J. O. ; Silk Manufacturer and Throwster ; Hope Mills, The Dams, Macclesfield, and 24, Milk St., London.

Woven Silks. Plain and figured Scarfs, Handkerchiefs, and Mufflers. Damasks and Brocades for Furniture, &c. Thrown Silks, not dyed.

The Norwich Crape Company, Limited ; Silk Crape Manufacturers ; St. Augustine's Factory, Norwich.

Silk Crape, and Silk Crape Veils.

Patterson, Wm., & Sons ; Silk Merchants and Throwsters Nottingham.

Thrown Silks of various descriptions.

Peters & Co.; Elastic Web Manufacturers, Silk Throwsters; *City Road Mills, Derby, and Bellevue Works, Borrowash, near Derby.*

Elastic Webs for Boots and Shoes in all classes and styles in black and colours, in Silk, Wool, and Cotton. Thrown Silk in Tram and Organzine for manufacturing purposes.

Pim Brothers & Co.; Manufacturers of Irish Poplins, &c.; *22, William St., Dublin.*

Irish Poplins of different qualities, composed of Silk and Woollen Yarn, for ladies' dresses. Furniture Silk Terries, plain, figured, and brocaded.

Rickards, Charles Ayscough; Manufacturer of Sewing and Embroidery Silks; *Bell Busk Mills, viâ Leeds. (Agent in Paris, J. L. Pollock, 25, Rue Thevenot.)*

Coloured Silk Reels on which are displayed specimens of sewing-machine Silk, hand-sewing Silk, Embroidery Silk, and Button-hole Silk.

Salter & Whiter; Silk Manufacturers; *8, Milk St., Cheapside, London; Works, Middleton and Sudbury.*

Manufactured Silk Goods, viz., Black Silks for dresses. Black and coloured Collar Velvets. Black and coloured Silk Serges.

Slater, Buckingham, & Co.; Silk Manufacturers; *35, Wood Street, Cheapside, London; Works, Spitalfields, London.*

Gentlemen's Cravat Silks in the piece. Silk Scarfs. Made-up Cravats. Umbrellas.

Thompson, William, & Co., Limited; Silk Spinners; *Galgate Silk Mills, near Lancaster. (Agent in Paris, H. H. Skepper, 25, Rue Thevenot.)*

Long and short fibred Silk Yarns—throstle and Mule Spun—made from Cocoons, Husks, and Knubs, and Throwsters Wastes, Grey and in the dyed state, showing Yarns suitable for Dress Goods, Bandannas, Lace, Net, Embroidery, Sewings, Ribbons, and Velvets.

Turner, Archibald, & Co.; Elastic Fabric Manufacturers, &c., Inventors; *Bow Bridge Works, Leicester.*

Elastic Fabrics, woven and braided, suitable for boots and shoes, and domestic purposes of every description.

Vanner, J., & Sons; Silk Manufacturers; *Coleman Street, London. Works, Haverhill, Essex, and Glemsford, Suffolk.*

Silks for Umbrellas and Parasols made with the old English dyes.

Virgoe, Middleton, & Co.; Silk Manufacturers; *34, Wood St., London.*

Silk Scarfs, Cravats, Handkerchiefs, and Mufflers.

Ward, Anthony, & Co.; Silk Manufacturers; *Albion Mills, Leek, Staffordshire.* (*Agent in Paris, E. Goudchaux, 60, Boulevard de Sebastopol.*)

Sewing Silks used by Tailors, Saddlers, Milliners and Stay Manufacturers. Machine Twist for use in all descriptions of sewing machines.

Watson & Co.; Silk Manufacturers; *London Mills, London St., Leek, Staffordshire.*

Machine Silk for Sewing Machines. Sewing Silks for Tailors, &c. Silk and Legree Twist for button holes. Purse Twist. Machine Silk for tailors, bootmakers, &c. Filoselle and Embroidery Silk. Knitting Silk for hosiery. Tram and Organzine for making piece silks. Prussian Bindings and Braids for trimmings.

Welch, Margetson, & Co.; Manufacturers; 16 and 17, *Cheapside, London.*

Silk Scarfs, Neckties, Mufflers, and Handkerchiefs. Umbrellas.

CLASS 35.—SHAWLS.

Woollen shawls, pure or mixed.

Cashmere shawls.

Silk shawls, &c.

Farmer & Rogers; *Regent Street, London.*

Cashmere Shawls, &c. (Exhibited in Indian Section.)

Kashmir, His Highness the Maharajah of, Srinagar.

Shawls, &c. (Exhibited in Indian Section.)

Oulman (Les Fils) & Co.; 2, *Rue Drouot, Paris.*

Shawls, &c., exhibited in Indian Section. (*See also Class 39.*)

CLASS 36.—LACE, NET, EMBROIDERY, AND TRIMMINGS.

Thread or cotton lace made with the distaff, the needle, or the loom.

Lace made of silk, worsted, or mohair.

Gold and silver lace.

Silk or cotton net, plain or figured.

Tambour embroidery, crochet-work, &c. Gold, silver, and silk embroidery. Church embroidery. Embroidery; tapestry and other work done by the hand.

Lace-work and trimmings of silk, floss silk, worsted, mohair, horsehair, thread, and cotton; laces.

Lace-work and trimmings, real or imitation; lace-work for military uniforms.

Adams, Thomas, & Co., Limited; Lace Manufacturers;
*Stoney St., Nottingham. Works, Sherwood Hill,
near Nottingham.*

Lace Curtains. Silk and Cotton Laces and Nets. Lace
Mantles, Frillings, Underclothing, Hosiery, &c.

Bauer, Mrs. Adolphus W.; Ladies' and Children's Outfitter,
Inventor; 64, *Oxford Street*, and 84, *Wells Street*,
London. (*Agent in Paris, F. Fortin, 11, Rue des
Filles St. Thomas.*)

Hand-sewn Embroideries. (Exhibited in Class 37.)

Copestake, Hughes, Crampton, & Co.; Lace and Muslin
Manufacturers; 5, *Bow Churchyard, London*, and at
Nottingham.

Real Honiton Laces. Real Maltese Laces. Irish Guipre Laces.
Lace Curtains. Every description of Nottingham machine-
made Laces, and Nets.

Gardner, J., & Sons; Lamp Manufacturers, Inventors; 453,
Strand, and 3 & 4, *Duncannon St., London.*

Embroidery (new character), exhibited in Class 27. (Exhibit
also in Classes 20 and 27.)

Heaton, John Aldam; Artist-Decorator, Inventor, and
Manufacturer; 29, *Bloomsbury Square, London*, and
Bradford, Yorkshire.

Embroidery for domestic and ecclesiastical purposes. (*See also
Class 18.*)

Howell, James, & Co.; Silk Mercers, Lacemen, &c., Manu-
facturers; 5, 7, 9, *Regent St., London.*

Suite of English Lace manufactured in Devonshire and gene-
rally known as "Honiton" Lace. The suite consists of Wide
Volant, Garniture, Handkerchief, and Fan. The design is
modelled on the plan of the most advanced style of Flemish
Lace in the 17th century, the ground resembles the open
Argantan Bride, alternate with the finest Mechlin, while
the border is nearly straight, but beautifully broken up with
almost endless variety of detail, extending without repetition
for nearly a yard. The Trophies represent music, poetry, and
painting, set off in medallions of several different delicate pro-
portions. (Exhibit also in Class 20.)

Kulp, H. N., & Son; Manufacturers and Merchants; *Not-
tingham.*

Lace Goods of all sorts.

The Ladies Work Society, H.R.H. the Princess Louise,
Marchioness of Lorne, President; 31, *Sloane St.,
London.*

Appliqué Needlework for the Morning Room in the House
of the Royal Commissioners at the Paris Exhibition of 1878,
viz.:—A Frieze of Japanese design on textile fabric of gold-
coloured silk, representing various subjects, illustrated by
figures, birds, and flowers. A Panelling for Walls of olive
green plush, with border of conventional design on brown
satin ground. Curtains with the same border and design.

Mallet, Henry, & Sons; Lace Manufacturers; *Mary Gate, Nottingham. Works, New Basford, near Nottingham.*

Imitations of Spanish, Valenciennes, Bruges, Brabant, and other hand-made Laces.

Marlborough, Duchess of; *Viceregal Lodge, Dublin.*

Lace Flounce, 11 yards; Lace Lappet: worked by the girls of the Youghal Convent School, co. Cork. Irish Point Lace Fan (mounted); Imitation Brussels Lace Fan (unmounted); five pair of embroidered Kid Gloves; embroidered Banner; Irish Point Lace Pocket-handkerchief; specimen of plain work: worked at Parsonstown Industrial School, King's County. Nine specimens of embroidery worked on net: worked at Bangor Manufactory, co. Down. Ribbon Embroidery on Satin (broad and narrow); Satin embroidered for shoes: worked at the Cashel Industrial School, co. Tipperary. Child's Dress in cut work: worked at Monaghan Industrial School, co. Monaghan. Six pair knitted Lace Socks; a knitted Shetland Shawl; two pair of knitted Silk Stockings; two knitted Jackets; one knitted Cape: worked by the Blind Inmates of the Merrion Industrial School, Dublin.

Rothschild, Lady de; 6, *Buckingham Gate, London, and Tring Park, Tring, Hertfordshire.*

Specimens of Buckinghamshire Pillow Lace, the results of a recent revival in the local industry of the Aylesbury district encouraged and promoted by the exhibitor and other ladies of the county.

Royal School of Art Needlework; *Exhibition Road, South Kensington, London.*

Curtains and Coverings for Furniture suitable for drawing rooms, embroidered in various styles.

Smith, George John; 31, *St. Aubyn's Road, Upper Norwood, Surrey. Paris.*

Irish Laces.

Stiebel, Kaufmann, & Co.; Lace Manufacturers; *St. Mary's Gate, Nottingham. (Agent in Paris, Camille Varenne, 40, Rue Notre Dame des Victoires.)*

Veils, Fichus, Nets, and Laces.

Sweetman, C.; Manufacturer; 40, *Avenue de la Motte Piquet, Paris.*

Children's Costumes. Boys' Scotch Dresses. Baby Linen. Embroidery.

Vallance, Miss Fanny; 43, *Porchester Terrace, Hyde Park, London.*

Four Pieces of Embroidery in Crewel work for the panels of a folding fire screen, designed and worked by the Exhibitor.

CLASS 37.—HOSIERY AND UNDER-CLOTHING AND ACCESSORIES OF CLOTHING.

Hosiery of cotton, thread, wool, cashmere, silk or floss-silk, pure or mixed. Elastic fabrics. Under-clothing for men, women, and children; baby linen. Flannel and other woollen garments.

Stays, scarves, gloves, gaiters, garters, braces, fans, screens, umbrellas, parasols, walking-sticks, &c.

Allen, Solly, & Co.; Hosiers; 8, *King Edward St., Newgate St., London. Works, Nottingham and Godalming.*

Samples of high-class Hosiery in cotton, wool, silk, Lisle Thread and Merino.

Appleyard, H., & Co.; Manufacturing Hosiers; *Balbriggan, Ireland, and 36, Lower Sackville St., Dublin.*

Ladies' and Gentlemen's Hosiery.

Aston, William; Button Manufacturer; *Princip Street Works, Birmingham. (Agent in Paris, M. May, 14, Rue Thérénot.)*

Buttons made of Cloth, Silk, Mohair, Linen, Metal, Zinc, Iron, Ivory, Wood, Buffalo Horn, and Buckles.

Bauer, Mrs. Adolphus W.; Ladies' and Children's Outfitter, Inventor and Manufacturer; 64, *Oxford St., and 84, Wells St., London. (Agent in Paris, F. Fortin, 11, Rue des Filles St. Thomas.)*

Improved shapes in Ladies' and Children's Underclothing, Baby Linen, Infants' Bassinette, Basket, &c. Embroideries and Lace.

Debenham & Freebody; Silk Manufacturers; *Wigmore Street and Welbeck Street, London. (Paris, 17, Rue St. Marc.)*

Ladies' Silk Hosiery of exceptionally fine qualities. Plain and embroidered Ladies' and Gentlemen's Fine Silk and Spun-silk Underwear, manufactured at Belper, Derbyshire.

Hick, William; Inventor and Maker of Self-fastening Buttons; 37, *Kirkgate, Huddersfield, Yorkshire.*

Patent Self-fastening Brace and Fly Buttons, adjusted without sewing. Shank Button Fastener. Solitaires.

Lewis, G. & E. S.; Inventors; 12, *Warwick Square, City, London.*

A Corset fitted with Lewis' patent "Simplicia" busk and casing.

Morley, J. & R.; Manufacturers; *Nottingham, and 18, Wood Street, London.*

Hosiery and Gloves.

The Nottingham Manufacturing Company, Limited; (W. J. HESLOP, MANAGING DIRECTOR); Manufacturers of Hosiery and Hosiery Machinery; *Station St., Nottingham, and Factory St., Loughborough.*

Hosiery of all descriptions and Underwear made from looped fabric machinery. Models of the Machinery used in producing the goods exhibited.

Simmons, Simon; Manufacturer and Inventor; 180, *Bishopsgate Street Without, London.*

Umbrella Sticks with frames showing the application of an improved "catch-runner," the use of which facilitates the opening and closing action, and dispenses with the grooving and inserting of springs in the stick.

Smyth & Co.; Manufacturers of real Balbriggan Hosiery; *Balbriggan, Ireland; Warehouses, 36 and 37, Lower Abbey St., Dublin; 30, Milk St., London.*

Ladies' Hose (the finest hose ever manufactured). Ladies' Hose elaborately embroidered, Gentlemen's Half-hose. Ladies' Lace Hose.

Spiers Brothers; Manufacturing Outfitters; 34, *Wood St., City, London; 9, Rue Scribe, Paris.*

Shirts, Hosiery, and Underclothing, Cravats of Spitalfields Silk, Gloves. Umbrellas.

Swears & Wells; Manufacturing Outfitters and Inventors; 192, *Regent St., London.*

Girls' Costumes, Children's and Youths' Tailoring. Shirts, and accessories to the above manufactures. Improvements in various articles of Wearing Apparel.

Thomson, W. S., & Co.; Manufacturers and Patentees; 97, *Cheapside, London; Works, Old Ford Road, Bow, London.*

"Glove-fitting" and "True-fit" Corsets. "Unbreakable" Corset Buses.

CLASS 38.—CLOTHING FOR BOTH SEXES.

Men's clothes; women's clothes. Waterproof clothing.
Men and women's head-dresses; artificial flowers and feathers.
Wigs and works in hair.
Boots and shoes.
Children's clothes.
Clothing peculiar to various professions and trades.
Native costumes of different countries.

Anderson, Abbott, & Anderson; India-rubber and Oil-skin Manufacturers, Inventors; 37, *Queen Victoria St., London; Dod St., Limehouse, London; and at Bristol and Swansea.*

India-rubber and Oilskin Clothing. India-rubber for mechanical, surgical, domestic, sporting, nautical, mining and agricultural purposes.

Arnold & Coldwells; Manufacturing Tailors, Hatters, and Outfitters; 78 and 79, *North End, Croydon, Surrey.*

Ladies' Blue Cloth Riding Habits embroidered by hand. Ladies' Riding Habits for warm climates, combining lightness in weight with durability in texture, and of a colour that will not absorb heat or show dirt. Gentlemen's and Boys' Clothing. Gentlemen's, Boys' and Ladies' easy-fitting Silk Hats, combining lightness, durability, and ventilation. Bartrum & Harvey's patent "Ventilatorium" Waterproof Coat.

Bartrum, Harvey, & Co.; Manufacturers of Patent Waterproof Clothing; 23 and 25, *Gresham St., City, London. (Agent in Paris, G. W. Flint, 8, Rue de la Chaussée d'Antin.)*

Patent "Ventilatorium" Waterproof Coats, Hats and Caps, thoroughly ventilating but perfectly waterproof; the parts of the fabric at the back of the coat and under the arms are separated, and the india-rubber perforations in the exterior and interior portions are so arranged as to admit air but to exclude rain (exhibited in Messrs. Arnold and Coldwell's case).

Baxter, Richard; Boot and Shoemaker, Inventor; *St. James' Green, Thirsk, Yorkshire.*

Ventilating Promenade and Wooden Clump Boots.

Birnbaum, Bernard; India-rubber Clothing Manufacturer; 21, 22, 23, *New Broad St., and 14, Blomfield St., London.*

India-rubber Clothing, improved in quality and appearance and ventilated by perforations, yet thoroughly waterproof. Air-proofing in all its branches.

Blacklock, Goudie, & Co.; Manufacturers of Waterproof Clothing, and Inventors; *Kent Works, and 69, Jamaica St., Glasgow, 101, Princes Street, Edinburgh, and 59, Gresham St., London.*

Waterproof Clothing made of Cotton, Woollen, Silk, and Linen Fabrics, proofed with India-rubber; Goudie's Patent Life-saving Garments, and Life-saving Cushions.

Bostock, Edwin & Frederick; Boot and Shoe Manufacturers; *Stafford and Northampton.*

Boots and Shoes.

Brightman Brothers; Boot and Shoe Manufacturers; *Lewin's Mead, Bristol.*

Boots and Shoes of every description for Ladies and Children.

Burbidge & Rowley; Hat and Helmet Manufacturers;
Middle St., Aldersgate St., London.

Silk Hats, Felt Hats, Military, Police, and all other kinds of Helmets.

Christy, J. E. & W., & Co.; Hat, Cap, and Helmet Manufacturers; 35, *Gracechurch St., London. Works, Bermondsey St., London, and Stockport, Cheshire.*

Felt Hats, Silk Hats, Caps, Helmets.

Craig, Christie, & Co.; Hat Manufacturers; *Grahams Buildings, 23, Potter Row, Edinburgh.*

Satin Hats, Pull-over and Felt Hats. Scotch Caps.

Cunningham, Alexander, & Co.; India-rubber Manufacturers, Inventors; *Victoria Rubber Mills, 230, Leith Walk, Leith.*

Waterproof Coats and other articles used for sporting purposes. Waterproof Goods used for travelling purposes, and Waterproof Articles used for domestic purposes; and sundries.

Currie, William, & Co.; India-rubber Manufacturers; *Caledonian Rubber Works, Dalry Road, Edinburgh.*

Waterproof Clothing, Waterproofed Fabrics, in the piece. Waterproof Travelling and Sporting Equipments.

Eddison, Thomas; Manufacturer of Springs for Hat Rims, Inventor; *Junction Works, 22, Whitehall Road, Leeds, Yorkshire.*

Flexible Steel Wire Springs for curling and supporting the shape of Soft Hat Brims, some with extra arch or curl, hitherto unattained.

Field & Sons; Straw Hat and Bonnet Manufacturers, Inventors; 113, 114, and 115, *Fore St., London. Works, Harpenden, near Luton, Bedfordshire; and at St. Albans, Hertfordshire.*

Straw and Felt Hats and Bonnets in different prevailing shapes. English Straw Plaits.

Flatau, A. & W., & Co.; Boot and Shoe Manufacturers and Leather Merchants, Inventors; 25 to 29, *Rope-maker St., Finsbury Pavement, London, and Market St., Northampton.*

Boots, Shoes, and Boot Uppers for Men, Women, and Children.

Fyfe & Robinson; Manufacturers, Inventors; 2, 3, 9 and 10, *Maidenhead Court, Aldersgate St., London.*

Patent Dress Holders, Patent Shirt Studs, &c. Ladies' Belts, Silk Ties and Bows.

Hargroves, R. A. & J., & Co.; Wholesale Hat and Cap Manufacturers; 41, *Charterhouse Square, London.*

Children's Felt Hats; Boys' Hats of other materials; Men's Silk and Felt Hats.

Lee Brothers; India-rubber Manufacturers; 27, *Watling St., London.*

Waterproof India-rubber Textile Fabrics, Waterproof Clothing, Travelling Apparatus, and Camp Equipage. Air-proof goods, &c.

Lincoln, Bennett, & Co.; Hat Manufacturers; 1, 2, and 3, *Sackville St., and 40, Piccadilly; 24, Nelson Square, Blackfriars Road, London.*

Silk Velvet Napped Hats. Felt Hats. Felt Helmets for Tropical Climates. Silk Velvet Hunting Caps Tweed Caps. Military Helmets.

Lobb, John; Bootmaker; 296, *Regent St., London.*

Ladies' and Gentlemen's superior made Boots and Shoes.

Lye, Thomas; Straw Plait and Chip Dyer. Inventor of the Colours; *Luton, Bedfordshire.*

Samples of colours on Straw and Chip Plaits for making Hats and Bonnets.

Macintosh, Charles, & Co.; India-rubber Manufacturers, Patentees; *Cambridge St., Manchester; and 19, St. Bride St., Ludgate Circus, London.*

Waterproof Fabrics and Garments. Travelling, Sporting, and Fishing Articles. Air and Water Beds, Pillows, Cushions, &c. Cart and Waggon Sheets. Horse Covers. Military and Naval Equipments. Mechanical Articles, Hose-pipe, Tubing, Valves, Washers, Buffers. Chemical and Dye-house articles. Hat Pressing Bags. Card Cloths and Printers' Blankets. Hospital, Surgical, and Domestic Articles. Fine Cut Sheet Rubber. India-rubber Thread, Playing Balls, Elastic Bands, Erasing Rubber, Tobacco Pouches and Bags, Rubber Soles for Boots and Shoes, Door Mats, &c.

McIntock, James, & Sons; Down Clothing Manufacturers, Inventors; *Utilitas Works, Barnsley, Yorkshire.*

Real Eider and Russian Down Quilts and Skirts. Patent Down Clothing, Silk Down Toralium Quilts and Skirts, Ladies' and Gentlemen's Dressing Gowns and Jackets, Vests, Chest Protectors, Smoking Caps, Tea Cosies, &c.

Macqueen & Co.; Hat Manufacturers; 8 and 9, *Barbican, London. Works, Stockport, Cheshire.*

Felt Hats, soft, semi-stiffened, and hard.

Manby, John; Ladies' Tailor; 21, *Rue Auber, Paris.*

Four Costumes in Cloth in different styles. A Lady's Riding Habit. Four braided Jackets (for Ladies') of different shapes, all made in London from Exhibitor's own designs.

Matthews, James; Boot and Shoe Manufacturer; 16, *Oakley Street, Waterloo Road, London.*

Gentlemen's Dress Boots. Ladies' Grecian Slippers. White Kid Boots. A blue Morocco seamless Boot. Queen Anne Slippers. Ladies' Dress Shoes. Boots for Deformities. A Lady's Cork Boot. A Jockey Racing Boot. Pair of Ladies' Cloth Boots. Pair of Glacé Kid Boots, all made by hand.

Meyer & Mortimer; Highland Accoutrement Makers; 36, *Conduit St., Hanover Square, London.* (*Agents in Paris, Syme & Disney, 14, Rue Halevy.*)

Costume of a Scottish Chief in Ancient and Modern times.

Middlemass, James, & Co.; Robe Makers and Outfitters, Inventors; 18, *South Bridge, Edinburgh.*

Ecclesiastical, Magisterial, Academical, and Forensic Robes, with their appendages. Hoods of the styles and colours appointed by the University of Edinburgh to be worn by Graduates at the "Capping" or Graduation Ceremony.

Mutton, Thomas, & Co.; Hat Manufacturers, Inventors; 84, *King's Road, Brighton.*

Gentlemen's Silk Hats and fine Felt Hats. Ladies' fine Felt Hats.

Nicoll, Henry John; Clothier; 114 to 120, *Regent St., 22, Cornhill; and 45, Warwick St., London*; 10, *Mosley St., Manchester*; 50, *Bold St., Liverpool*; 39, *New St., Birmingham.* (*Paris, 29, Rue Tronchet.*)

For Gentlemen:—*Paletot of all Wool Tweed Cloth. *Overcoat of fine Twilled Cloth. Alpaca Overcoat. *Connaught Coat of treble milled Devon Cloth. For Ladies:—*Ulster of fine Vicuna Wool Cloth. *Costume of fine Cloth. *Jacket of Scotch Cheviot. Silk Cloth Cloak. For Boys:—Complete Scotch Costume. Sailor Dress. Norfolk Suit. Dress Suit. *Cashmere Overcoat.

N.B.—All those marked * are waterproof, yet evaporable.

Reid, James; Inventor and Maker; 10, *Ropemaker Street, London*; and *Old England, 85, Boulevard des Capucines, Paris.*

Gentlemen's, Ladies', and Children's Costumes.

Slazenger & Sons; Manufacturers of Gaiters and Leggings; *Irene Chambers, 25, Market St., Manchester.* (*Agents in Paris, E. Selig & Co., 13, Boulevard de Strasbourg.*)

Kerseymere, Linen, Tweed, Worsted, Cord, and Leather Gaiters. Cloth, Leather, and Waterproof Canvas Leggings.

Swears & Wells; Manufacturing Outfitters and Inventors; 192, *Regent Street, London.*

Girls' Costumes, Children's and Youth's Tailoring. Shirts, and accessories to the above manufactures. Improvements in various articles in wearing apparel. (Exhibited in Class 37.)

Taylor Brothers; Manufacturers of Straw and Chip Hats and Bonnets; 116, *Wood St., London.* (*Agent in Paris, Paul Tourasse, 6, Rue St. Marc.*)

Straw and Chip Hats and Bonnets.

Tress & Co.; Hat and Helmet Manufacturers, Inventors and Patentees; 3, 5, and 7, *Stamford St., and 17½, Blackfriars Road, London.*

Gentlemen's Dress Silk and Felt Hats. Indian and Home Regulation Helmets. Military Helmets. Tropical Hats and Helmets. Patent Felt Teraï Hats. Patent Pith and Felt Solar Hats. Patent Cork Air Tube Ventilated Hats and Helmets. Ladies' Silk and Felt Hats.

Van Vollen, Gerret; Manufacturer, and Inventor of Bleached Hair; 50 to 52, *Waterloo Road, London.*

Raw Hair in its natural state. Hair washed and prepared. Hair bleached and dyed in various shades from black to white. Ornamental Head Dresses of every style, &c. Liquids, &c. for bleaching purposes. (Exhibited in Class 28.)

Vyse, Sons, & Co.; Manufacturers; 76, *Wood St., London. Works, Luton, Bedfordshire, and St. Albans, Hertfordshire.* (*Agent in Paris, L. Caruel, 3, Rue Turbigo.*)

Straw, Felt, Chip, Tuscan and Leghorn Hats and Bonnets, and Straw Plaitings.

Warmington, F. W., & Co.; Leather and Closed Upper Manufacturers; 60, *High Street, Colchester, and at Deptford, London.*

Shoe Butts. Kips, waxed and Levent. Cordovan. Military Jack Legs. High Shoe Legs. Men's and Womens' Closed Uppers.

Welch & Sons; Straw Plait and Hat and Bonnet Manufacturers; 44, *Gutter Lane, London; (Paris, 42, Rue des Jeuneurs.)* *Factories, Luton, Bedfordshire, and St. Albans, Hertfordshire.*

English Straw Plaits. Straw Hats and Bonnets.

CLASS 39.—JEWELLERY AND PRECIOUS STONES.

Jewellery in precious metals (gold, platinum, silver, aluminium), chased, filigreed, set with precious stones, &c.

Plated and imitation jewellery.

Ornaments in jet, amber, coral, mother-of-pearl, steel, &c.

Diamonds, precious stones, pearls, and imitations.

Aitchison, James; Manufacturing Gold and Silversmith; 23, *Princes St., Edinburgh; Works, Bank Street, Edinburgh.*

Scottish Jewellery and Highland Ornaments, inlaid with Pearls Cairngorms, and Pebbles found in Scotland.

Brogden, John; Manufacturing Goldsmith and Jeweller and Designer; 16, *Henrietta St., Covent Garden, London.*

Bracelets, Brooches, Chains, Earrings, Head Ornaments, Lockets, Necklaces, Pins, Rings, Stud, and Seals.

Crouch, Joseph M.; Manufacturing Jeweller; 203 and 221, *Regent St., London. Works, Edinburgh and London.*

Gold and Silver Bracelets, Brooches, Earrings, Pins, Sleeve Links, Studs, Rings, Locketts, Necklaces, &c. Silver Mounted Rams' Heads and Highland Accoutrements.

Crouch, William Albert; Manufacturing Jeweller and Inventor; 264, *Regent St., London. Works, Edinburgh.*

Brooches, Earrings, Bracelets, Necklets, Shawl Pins, Rams' Heads as Snuff Muffs. Highland Ornaments.

Damon, Robert; 4, *Pulteney Buildings, Weymouth.*

Fac-simile of thirty celebrated Diamonds. Fac-simile of Natural Crystals of Diamonds and Precious Stones.

Fetherston, John J.; Engraver and Designer; 2, *Coppingers Row, Dublin, Ireland.*

A Collection of unique and rare Miniatures, specially designed as Personal Ornaments.

Francati & Santamaria; Manufacturers of real Whitby Jet Jewellery, &c.; 65, *Hatton Garden, London.*

Jet Ornaments with Cameos, Roman and Florentine Mosaics, Shell Cameos, and Silver Filigrees. (See also Class 45.)

Gibson, William; Designer, Inventor, and Manufacturer; *Donegall Place and Castle Place, Belfast. (Agent in Paris, N. F. Fenwick, 8, Rue St. Georges.)*

Diamond and Gold Jewellery:—Tiaras, Hair Ornaments, Necklaces, Bracelets, Pendants, Locketts, Brooches, Earrings, Solitaires, Sleeve Links, Studs, &c. Keyless Watches, Chronographs, Chronometers, Minute and Quarter Repeaters. Irish Bog Oak and Killarney Arbutus Wood Ornaments, Bracelets, Necklaces, Brooches, Earrings, Pins, Studs, Crosses, &c. Table Ornaments, Jewel Caskets, Writing Cases, Centre-pieces, Vases, Candlesticks, Inkstands, and various fancy articles.

Goggin, Jeremiah; Designer and Inventor of Bog Oak and Antique Celtic Ornaments; 74, *Grafton St., Dublin, Ireland.*

Irish Bog Oak, manufactured, comprising Bracelets, Brooches, Necklaces, Earrings, Tiaras, Pins, Studs, Links, Solitaires, Chatelaines, Inkstands, Blotting Books, Envelope and Writing Cases, Centre-pieces, Candlesticks, Caskets, Albums, Book Racks and Slides. Card and Cigar Cases. Pencil Cases, Statuary, Clocks, Crosses, Canes, Mirrors, Pipes, Frames, &c.

Levetus Brothers; Manufacturers of Plated Chains; 56, *Vittoria St., Birmingham.*

Metal Chains gilded and burnished to such an extent as to resist acid, wear well, and keep their colour.

McCreery, James; Bog Oak Carver and Spinning Wheel Maker; 103, *Thorndyke St., Belfast, Ireland.*

Irish Spinning Wheel, Brooches, Crosses, Walking Sticks, Jewellery Ornaments, and Spinning Wheels in Irish Bog Oak, &c.

Marshall, W., & Co.; Gold and Silversmiths; 24 and 25, *Princes St., Edinburgh.*

Jewellery in Gold, set with stones, pearls, and enamelled. Combinations of Gold and Silver with enamel. Enamelled Silver ornaments all of national types. National Costume Decorations. Diamond Jewellery.

Neal, John; Gold and Silversmith, &c.; 44, 46, and 48, *Edware Road, London.*

Gold and Silver Jewellery set with precious stones. Gold and Silver Watches, Chronometers, and Timekeepers. Silver and Electro-plated articles for the table. (Exhibited in Class 23.)

Oulman (Les Fils) & Co.; Merchants and Manufacturers; 2, *Rue Drouot, Paris.*

Articles of Native Indian Jewellery. Curiosities. Works in Ivory from Benares and Moradabad, exhibited in the Indian Section. (See also Class 35.)

Watson & Son; *Moorgate Street Chambers, Moorgate Street, London.*

Indian Gold and Silver Jewellery. (Exhibited in Indian Section.)

CLASS 40.—PORTABLE WEAPONS AND HUNTING AND SHOOTING EQUIPMENTS.

Defensive armour: cuirasses and helmets.

Blunt weapons: maces, life-preservers.

Side-arms: foils, swords, sabres, bayonets, lances, axes, hunting knives.

Missile weapons: bows, cross-bows, slings.

Fire-arms: guns, rifles, pistols, and revolvers.

Accessory objects appertaining to every kind of small-arms: powder-flasks, bullet-moulds, &c.

Round, oblong, hollow, and explosive projectiles. Percussion caps, priming, cartridges.

Hunting and sporting equipments.

Eley Brothers (Limited); Manufacturers of Sporting and Military Ammunition, Inventors; 254, *Gray's Inn Road, London.*

Sporting and Military Ammunition. Cartridge Cases for sporting and military purposes. Percussion Caps. Gun Waddings, felt and cloth.

Gibbs, George; Sole Manufacturer of Metford Rifles, and Part Inventor of Gibbs and Pitts' Patent Self-cocking Hammerless Gun; 29, *Corn Street, Bristol.*

Metford Patent Rifles, match, sporting, and military. Gibbs and Pitts' Patent Self-cocking Hammerless and other Guns.

Grant, Stephen; Gun and Rifle Manufacturer and Inventor; 67A, *St. James's St., London.*

Sporting Guns, with extra Barrels and actions in leather cases.

Greener, W. W.; Gun Maker, Inventor; *St. Mary's Works, St. Mary's Square, Birmingham, and 68, Haymarket, London.*

Sporting Guns on the wedge-fast principle. Hammerless Guns on the wedge-fast principle. Double Rifles, Pistols, &c.

Henry, Alexander; Rifle and Gun Manufacturer, Inventor of the "Henry" system of Rifling; 12, *South Saint Andrew Street, Edinburgh, and 118, Pall Mall, London.*

Double-barrelled Central Fire "Express" and miniature "Express" Sporting Rifles. Single-barrelled "Express" Sporting Rifles. Military and match Rifles, Fowling pieces, Whaling Guns, &c.

Kynoch & Co.; Ammunition Manufacturers and Inventors; *Witton, near Birmingham.*

Military Cartridges for small arms. Sporting cartridges. Percussion Caps of various kinds. Bullets for Rifle Cartridges. Friction Tubes for cannon. Fog or Alarm Signals for railways.

Lancaster, Alfred; Gun and Rifle Manufacturer; 27, *South Audley St., and Drury Lane, London.*

High-class Express Sporting Rifles with low trajectory of projectiles using one back sight from 50 to 200 yards. Shot Guns of different calibres, and for various purposes. Guns for Pigeon shooting, with barrels bored to concentrate the shot and greatly increase the killing range of the Gun. The automatic self-cocking Gun, which after firing and in opening the gun ejects the spent case.

Lang, J., & Sons; Gun Manufacturers and Inventors; 22, *Cockspur St., Pall Mall, London.*

Self-cocking Automatic Breech-loading Double Gun. Treble Grip Breech-loading Central Fire Gun. Quadruple Grip Central Fire Rifle. Small Bore Gun with snap and improvements.

Lewis, George Edward; Gun and Rifle Maker; 32 and 33, *Lower Loveday St., Birmingham.*

Sporting Breech-loading Shot Guns. Patent Hammerless Breech-loaders. Express Rifle and converted Muzzle-loader to Breech-loader, all on Exhibitor's treble grip principle. "Cape" Gun for use as a Rifle or Shot Gun. Steel Cartridges for

Emigrant and Travelling Tent. Improved Field Tent or Tente d'Abri. Square Tent with inner lining and hanging bed. Rick Cloth for protecting stack of hay or corn before thatching. Patterns of Canvas, Linen, and other materials used in the manufacture of tents, and sketches of tents and tent furniture. Patterns of Flags and materials used in their manufacture.

The Patent Waterproof Paper and Canvas Co.; Water-proofers, Manufacturers, and Inventors; *Canal Works, Willesden Junction, near London.*

Water-resisting canvas and other woven fabrics and spun yarns. (Exhibited in Class 10.)

Unite, John; Tent, Rick Cloth, &c. Maker; 291 and 293, *Edgware Road, London.*

A hospital, garden, or sporting Tent. Square Tent, without centre pole, for officers, camping or garden purposes. Alpine or Camping Tent. Models of Tents, Rick Cloths, Cordage, &c. Samples of Canvas, Tarpaulin, and Horse Clothing. Improvements in Tent-poles to allow for shrinking of canvas by means of a spiral spring in centre of Tent-pole.

CLASS 42.—TOYS.

Dolls and playthings; dolls and figures in wax.
Games for the amusement of children and adults.
Instructive games.

Driscoll, Henry; Turner and Toy Manufacturer; *Steam Mills, Baron St., Pentonville, London.*

Croquet, Lawn Tennis, Chess, Games, Puzzles, Toys for indoor and outdoor amusement.

Hanks, J., & Son; Manufacturers and Inventors; *Chameleon Villas, Colchester Road, Walthamstow, Essex.*

Models of Steamboats, Locomotives, and Cranes. Puzzles. Scientific and Mechanical Toys of different construction worked by hand, steam, and clockwork.

Hely, Alfred Augustus; Author and Designer; 194, *South Lambeth Road, London.*

Model of an International Chess Tournament played with living figures.

Mead & Co.; Manufacturers and Inventors of Toys, Games, &c.; 78, *Cheapside, London.*

Baby Jumper, or Infant Gymnasium. Nursery Yacht or Rocking Boat for the exercise or amusement of one, two, or three children. Nursery Yacht and Rocking Horse combined. Child's Play Table and Chair, which when connected forms a high chair for the dinner table.

Montanari, Richard; Doll Manufacturer; 3, *Rathbone Place, Oxford St., London.*

Model Rag Dolls for the Nursery, warranted not to break. The clothes perfectly made so that the doll may be dressed and undressed, and can be easily cleaned with bread.

Nicholson, Hamlet; Patent Cricket Ball Maker, Inventor;
Kilner Deyne Terrace, The Park, Rochdale.

Cricket and Playing Balls.

The Scientific Toy and General Novelty Company; Manufacturers and Inventors; *Sun Works, 42A, Cloth Fair, Smithfield, London.*

Novel and ingenious Puzzles, Conjuring Tricks, Parlour Games, Billiards, Cards, &c., suitable for children. Novel inventions for Flying, Singing and Gyroscope Tops. Scientific Toys in Boxes, comprising Electricity, Magnetism, Chemistry, Photography, &c. Working Models of Agricultural, Locomotive, and Domestic Machinery. Scientific Apparatus for the instruction and amusement of the youth of both sexes.

Stormont, James G.; Brassfounder, &c.; 59, *Constitution Hill, Birmingham.*

The patent Repeater Call Bell rings 2, 4, or 6 times at each pressure of the finger. Silver's patent Ready Reference. Bill File and Letter Clip. The "Sturmberg Planchette," an instrument or toy for conducting experiments in animal magnetism. The "Sturmberg Gyroscope," an instrument or toy for illustrating certain laws of dynamics.

Swan, Charles; Engineer; 9, *Upper Mount Pleasant Avenue, Dublin, Ireland.*

Scientific Toys for children and adults, educational and amusing.

F I F T H G R O U P.

MINING INDUSTRIES, RAW AND MANUFACTURED PRODUCTS.

CLASS 43.—MINING AND METALLURGY.

Collections and specimens of rocks, minerals, ores. Ornamental stones. Hard stones. Refractory substances. Earths and clays. Various mineral products. Raw sulphur. Rock salt ; salt from salt springs.

Mineral fuel, various kinds of coal, coal dust, and compressed coal. Asphalt and rock asphalt. Bitumen, mineral tar. Petroleum, &c.

Metals in a crude state : pig-iron, iron, steel, cast-steel, copper, lead, silver, zinc, &c. Alloys.

Products of washing and refining precious metals, of gold beating, &c.

Electro-metallurgy : objects gilt, silvered, or coated with copper, steel, nickel, &c. by the galvanic process.

Products of the working of metals : rough-castings, bells, wrought-iron, iron for special purposes, sheet-iron and tin plates, iron plates for casing ships and constructions, &c.

Sheet-iron coated with zinc or lead ; copper, lead, and zinc sheets, &c.

Manufactured metals : blacksmiths' work, wheels and tires, unwelded pipes, chains, &c.

Wire drawing. Needles, pins, wire-ropes, wire-work, and wire-gauze, perforated sheet iron.

Hardware, edge-tools, ironmongery, copper, sheet-iron, tin-ware, &c.

Other metal manufactures.

Addis, J. B., & Sons ; Carving and Edge Tool Manufacturers, Inventors ; *Arctic Works, Rockingham St., Sheffield.*

Newly invented set of Tools for economy of labour in carving wood and stone. Scientific Turning Tools for ivory, brass, iron, hardwood, &c. Carpenters, Sculptors, Plasterers, and Geological Tools, &c.

Andrew, John Henry, & Co. ; Steel Manufacturers ; *Toledo Steel Works, Neepsend, Sheffield.*

Steel in bars, hammered, rolled, &c., in various stages of manufacture.

The Anglo-Russian Iron & Tin Plate Company, Limited ; Manufacturers ; 18, *New Bridge St., London. Works, South Wales.*

Tin Plates, Terne Plates, Black Plates and Sheets, and Deco-

rated Tin Plates, &c. Patent Tin plates free from grease and all impurities. Enamelled Placards on tin and black plates. Tin Canisters in every variety.

Ash & Lacy; Galvanized Iron Manufacturers; *Meriden St., Birmingham, and Globe Galvanizing Works, Great Bridge, Staffordshire.*

Galvanized, Tinned, Plain, and Corrugated Sheets. Patent Coated and Sheet Iron. Galvanised Wire Netting, and galvanized goods generally and Perforated Zinc.

Ashenhurst, John Talbot, & Co.; Cabinet Makers, Inventors; *51, Cardington St., Hampstead Road, London. Works, Birmingham.*

Patent Globulous centre action Castors for all kinds of furniture and pianofortes.

Avery, William, & Son; Needle and Pin Manufacturers, Inventors; *Headless Cross, Redditch, and 192, Great Hampton Row, Birmingham.*

Needles, Needle Cases, and Pins.

Baker, Christopher, & Sons; Manufacturers of Coffin Furniture and Brass Founders; *98 and 99, Lichfield St., Birmingham; 183, Tottenham Court Road, London; and 5, Victoria Bridge, Manchester.*

Coffin Furniture. Cabinet Brass Foundry. Brass Cabriole and Socket Castors.

Baldwin, E. P. & W.; Iron and Tin Plate Manufacturers; *Wilden Works, near Stourport; Horseley Fields, Wolverhampton, and Swindon, near Dudley.*

Sheet Iron: Pickled, cold, rolled, and close annealed. Tin Plates. Terne Plates. Button Plates or Black Plates.

Barff, Frederick Settle; Professor of Chemistry, Inventor; *Catholic University College, Kensington, London.*

Various specimens of manufactured Iron permanently coated with black or magnetic oxide to prevent rust (process patented).

Bartleet, William, & Sons; Manufacturers of Needles, Fish Hooks, and Fishing Tackle, Patentees; *Abbey Mills, Redditch.*

Sewing Needles. Needles for all kinds of sewing and embroidery machines. Crochet Hooks in steel, ivory, bone, and wood, and articles for every description of wool and other fancy work. (*See also Class 58.*)

Beardshaw, Herbert; *Prior Court, Sheffield. Works, Attercliffe, near Sheffield.*

Bicycle Tires and Spokes. Circular and other Saws. Files. Samples of Steel, cast and shear.

Bedford, John, & Sons; Manufacturers of Files, Edge Tools, &c.; *Lion Works, Mowbray Street, Sheffield.*
(*Dépôt in Paris, Bejot et C^e, 18, Rue de Turenne.*)

Crucible Cast Steel in bars, sheets, and ingots of various qualities. Files of first quality of every description. Edge Tools for carpenters, joiners, and sculptors. Saws of every description to be worked by hand or machinery. Spades and Shovels of different kinds. Knives for Agricultural Machinery, and for paper and leather-cutting machines.

Bennett, Thomas, & Son; Manufacturers of Gold and Silver Leaf, Goldbeaters' Moulds, &c.; 70 and 71, *Turnmill St., Farringdon Road, London.*

Gold and Silver Leaf, Foil, &c. Gold and Silver Beaters' Tools. Moulds, Shoders, &c.

Bird, Wm., & Co.; Iron and Steel and Machinery Merchants; 2, *Laurence Pountney Hill, Cannon St., London.*

Hematite and Manganiferous Iron Ore. Iron and Steel. Railway, Mining, and manufacturing plant. Steel Hawsers for ships. Asbestos, raw and manufactured.

Braby, Frederick, & Co.; Zinc and Galvanized Iron Manufacturers; *Fitzroy Works, 356-360, Euston Road, 120, Cannon St., and Ida Wharf and Victoria Wharf, Deptford, London; 6 and 8, Hatton Garden, Liverpool; and 20, 22, and 24, Great Clyde St., and Garnged Works, Glasgow.*

Wire Netting. Roofing Felt. Perforated Zinc. Zinc Roofing. Corrugated Galvanized Iron. Galvanized Iron Holloware.

Broomhill Coal Co.; near *Newcastle-on-Tyne.*

One block of Steam Coal.

Brown, Bayley, & Dixon, Limited; Steel and Iron Manufacturers, Inventors; *Sheffield Steel and Iron Works, Sheffield; 20, Walbrook, Cannon St., London.*

Steel Rails, Tires, Axles, Springs, Buffers, Rolled Steel Plates, Bars, and Sheets of all descriptions. Steel Weldless Chains.

Burnhope Coal Co.; near *Newcastle-on-Tyne.*

One block of Gas Coal.

Burys & Co., Limited; Manufacturers of Steel Files, Edge-Tools, &c., Inventors; *Regent Works, and Philadelphia Rolling Mills and Forges, Sheffield. (Agents in Paris, A. Burton & Son, 62, Rue Charlot (Marais).)*

Steel for all purposes; Files and Rasps of all descriptions; Edge Tools, Chisels, Gouges, Plane Irons, Axes, Adzes, Augers, Braces and Bits, and all Carpenters, Joiners, and Coopers' Tools. Saws. Patent Picks for mining, excavating, and military purposes. Cast Steel Engineers' Hand and Sledge Hammers, Stone Hammers, Mill Picks, Mining and Engineering Hand Tools, Machine Knives, Reaping Knives, Scythes, &c.

The Cambrian Patent Fuel Company, Limited ; Fuel Makers ; *Masonic Hall Chambers, Working St., Cardiff. Works, near Cardiff, South Wales.*

"Cambrian" Patent Fuel, an agglomeration of the best Welsh "Smokeless" Steam Coal and Coal Tar Pitch, pulverized and subjected to a dry heat process in patented machinery to eliminate all traces of Sulphur and other deleterious particles, incorporated with Coal Tar Pitch, and subjected to a pressure equal to 70 tons per block.

Chambers, G., & Co. ; Needle, Pin, and Fish Hook Manufacturers ; *Old Factory, Redditch.*

Sewing Needles, Machine Needles, Sail Needles, Pins, Fish Hooks, &c.

Clark, T. & C., & Co. ; Inventors, Hollow ware Iron Founders and Patentees of Enamelled Ware ; *Shakespeare Foundry, Wolverhampton.*

Enamelled Cast Iron Bath complete with woodwork and brass fittings. Enamelled, Cast, and Wrought Iron Cooking Vessels. Other useful articles in the same ware. Tinned Cast Iron Hollow ware with patented doubled edge tinned wrought iron cover. Cast Iron Door Hinges. Charcoal Box. Iron Hat and Cloak Hooks.

Clarke, Henry, & Co. ; Merchants and Needle Manufacturers ; *17, Gracechurch St., London. Works, Redditch.*

Needles of all kinds. Perfect Needles in various stages of manufacture. Patent Needle Cases, releasing one needle at a time.

Colver Brothers ; Manufacturers of Saws, Machine Knives, Steel, &c. ; *Pilot Works and Bellefield Saw Works, Sheffield.*

Circular Saw. Millsaw Webs. Hand and Back Saws. Agricultural Machine Knives. Paper Makers' Tools and Machine Knives for different purposes.

Compagnie Houillère de Graigola Merthyr ; Colliery Proprietors and Patent Fuel Manufacturers ; *Swansea, Wales.*

A Block of Coal from the Company's Collieries near Swansea, weighing 3 ton 16 cwt. Samples of Patent Fuel manufactured from Coal called "Graigola Merthyr."

Cooke Brothers ; Manufacturers of Safety Pins, &c. ; *Constitution Hill, Birmingham.*

Safety Pins made out of wire coiled at one end, at the other turned so as to make a sheath to protect the point to prevent it pricking or hurting the body. Curtain Hooks : Pin as above described with additional coil to place hook in, to hang up curtain or other fabrics ; also hooks without pin to sew on. Fancy Nail, metal top, lacquered and burnished for ornamenting Chairs, Mantel-pieces, &c. Drugget Pin, metal top, steel spike to fasten down Carpets, &c.

Corbett, John, M.P. ; Salt Manufacturer ; *The Salt Works of Stoke Prior, Bromsgrove, Worcestershire.*

Various kinds of Salt made from the Brine Springs at Stoke Prior, Worcestershire.

Cramlington Coal Co. ; near Newcastle-upon-Tyne.

One large and four small blocks of the West Hartley Main Coal.

Devon Great Consols Co., Limited ; Copper Miners and Manufacturers of Arsenic ; 134, Gresham House, Old Broad Street, London. Works, Tavistock, Devon.

Samples of Yellow Copper Ore. Samples of Arsenical Mundic from which the White Powdered Arsenic is made. Sample of Arsenic and Crystals.

The Diamond Fuel Company, Limited ; Manufacturers, Patentees, and Inventors ; 23, Old Broad St., London. Works, Belvedere, Kent.

Bricquets made from Welsh Steam Coal dust, equal to the large coal of same seams ; occupies one third less space in stowage, particularly adapted for sea-going steamers, railway locomotives, export and manufacturing purposes.

Evans, D. & H. C. ; Coal Exporters ; Ferryside Chambers, Swansea.

Blocks of Anthracite Coal from the district of Swansea, South Wales.

Evans, Edward ; Blue-Stone Quarry, Nantglyn, Denbigh, North Wales.

Tablet of Blue Stone, with copy of a Speech in "Phonetic Shorthand" lithographed on the surface.

Everitt, Allen, & Sons ; Manufacturers ; Kingston Metal Works, Birmingham.

Seamless Brass and Copper Tubes. Brazed Brass and Copper Tubes. Ornamented Brass Tubes. Sheet Brass and Copper. Brass, Copper, Iron, and Steel Wire. Patent Brass Bearings for Machinery. Patent Sheathing Metal. Patent Metal Nails for sheathing. Copper Boat Nails.

Fox, Charles, & Son ; Bronze Patent Metal Manufacturers and Inventors ; 15, Old Change, Cannon St. West, London.

"Sterling Bronze Patent Metal" to be used for every kind of fitting on every class of building where metal is generally used, such as Door Knobs, Finger Plates, Bell Pulls, Window Fittings, &c.

Francis, Thomas, & Co. ; Manufacturers of Malleable Cast Iron Nails and Castings ; Lion Nail Works, Sparkbrook, Birmingham.

Malleable Cast Iron Coffin Nails and Pins. Tin Tacks. Hob Nails. Carpet Nails and Rings. Rivets, Studs, Machine made Slate Nails. Castings, Composition Sheathing Slating, Deck and Boat Nails.

Glover, William James, & Co. ; Rope Makers ; St. Helens, Lancashire.

Round and Flat Hemp, Iron, and Steel Ropes used for mining, agricultural, and other purposes. Specialities. Compound

Ropes made from St. Petersburg, Clean and Manilla Hemps lighter and stronger than ordinary hemp ropes, and as durable. Non-twisting Iron and Steel sinking Ropes for increasing the safety of the miners during sinking operations. Steel ropes, breaking strain 160 tons to the square inch, made from patent plough steel wire.

Gordon, A. McC., & Co.; Lead and Tin Manufacturers and Merchants; 59 and 61, *Bridgewater St., Liverpool.*

Various specimens of Lead encased Block Tin Pipe, shown in section and in sundry forms, exhibiting the tin lining which protects the flowing liquid from the lead.

The Earl Granville, K.G.; *Shelton Colliery and Iron Works, near Stoke-on-Trent, Staffordshire.*

Various samples of Coal and Ironstone in the condition in which raised from the Mines; samples of the same Ironstone calcined or roasted. Various samples of Pig Iron of different qualities made from the minerals exhibited. A Section of the Mines drawn on paper.

Great Western Colliery Co.; Colliery Proprietors and Coke Manufacturers; 35, *West Bute St., Cardiff. Works, Rhondda Valley, Glamorganshire.*

Rhondda Navigation Steam Coal, Rhondda Vale Coke.

Greening, N., & Sons; Wire Manufacturers, Inventors; *Warrington, Lancashire.*

Metallic Wire Cloth, woven by steam machinery, used in Mining, Rice and Flour Milling, &c.

Harland, John Whitfield; Draughtsman and Engraver on Wood, Inventor; 49, *Essex Street, Strand, London.*

Selection of Door Furniture on the patent "Locknut" principle; the knobs or handles are securely fixed to the spindle by means of a "nut," which is capable of being adjusted to any thickness of door. (Made by T. J. Cooke, Cleveland Works, Wolverhampton.)

Harper & Moores; Manufacturers of Fire Clay Goods; *Stourbridge.*

Stourbridge Fire-clays in their raw state and refractory materials. (Exhibit also in Class 66.)

Harrison, Ainslie, & Co.; Ironmasters; *Newland Furnace, Ulverston, Lancashire, and 8, East India Avenue, London.*

Cold Blast Charcoal Pig Iron, LORN. Hematite (red). Rocks in which the Hematite is found. Castings from the Pig Iron, made malleable by the annealing process.

Hattersley, Edward J., & Co., Limited; Makers of Steel and Steel Goods; *Borussia Steel Works, Pea Croft, Sheffield. Paris, 22, Rue Meslay.*

Cast Steel, suitable for manufacturing into Engineers', Machinists', Engravers', Joiners', Masons', Shoemakers', and other

Tools. Bar Steel. Converted Blister Steel. Faggotted Bar, Single Shear, and Double Shear for welding to Iron and facing Anvils. Hammers, Edge Tools, and Picks. Swedish Bar (Exhibitors' own brand specially imported), prepared ready for manufacturing into carriage and other springs. Sheet Steel, hot rolled and cold rolled, various gauges suitable for manufacturing into Saws, Springs, Pens, &c. Files and Steel Tools generally.

Hatton, Sons, & Co.; Manufacturers of Iron, Tin Plates, and Tin Sheets; *Broadwaters Tin Plate Works, Kidderminster*; and *Bradley Tin Plate Works, Bilston*.

Sheet Iron. Tin Plates. Tin Sheets. Articles made therefrom.

Hayes, Crossley, & Co.; Needle Manufacturers; 153, *Cheapside, London. Works, Alcester.*

Sewing Needles, Double Pointed Needles, Sewing Machine Needles, Upholstering, Knitting, Netting, Crotchet, Saddlers', Bookbinders', Tapestry, Embroidery, Glovers', Yarn, Sail, Packing and Surgical Needles, Fish-hooks, Hair-pins, Needle Cases fitted. Samples of Needles in all stages of manufacture, each process shown and labelled.

Higgin, Thomas; Salt Proprietor, Inventor, and Patentee of New Process; 33, *Tower Buildings, Liverpool. Works, Northwich, Cheshire.*

Salt specially made for the preparation of Butter and Cheese, very pure. Salt, very pure, specially prepared for table use.

Houghton, James, & Son; Wire Drawers; *Townsend Wire Mills, Turner St., Warrington, Lancashire.*

Brass and Steel Pinion Wire, Round Polished Steel Wire, in lengths and rings; other Steel Wires used in the manufacture of Clocks and Watches; small Files, Tools, Broaches and Gravers used in the manufacture of Watches and Clocks.

Houghton, William Dickson; Steel Wire Manufacturer; *Sankey Wire Mills, Warrington. (Agent in Paris, C. L'Hoste, 5, Rue de Marseille.)*

Patent Steel Music Wire for Pianoforte and other purposes. Patent Steel Rope Wire for Colliery, Mining, and Agricultural Purposes, for Towing-Hawsers, Tramways, Bridges, and other purposes requiring great strength and toughness combined. Square, Flat, Click, and other shaped steel wires. Pinion and Round Steel Wire for Watch and Clock purposes. Steel Wire for general purposes. Steel Wire for Drills and other Tools, and for Needles. Brass Pinion Wire for Gas and Water Meters.

Jessop, William, & Sons (Limited); Steel Manufacturers; *Brightside Works, Sheffield. (Agent in Paris, T. C. Hounsfield, 8, Rue de Lancry.)*

Cast Steel in bars, sheets, bands, coils, and plates. Specimens of Bar Steel.

Johnson, (Richard), Clapham, & Morris; 24 and 26, *Lever St., Manchester*, and 23, *Cheapside, Dale St., Liverpool.* *Works, Mill St., Manchester.*

Patent Machine-made Wire Netting, 4-inch mesh, with plain and stranded wire centre strands twisted into the body of the mesh. Galvanized Wire Netting, various meshes, machine-made. Extra strong wove wire cloth for mines, &c., woven by steam-power. Paper Machine Wires. Miners' safety Lamps. Brass Steam Fittings. Tinned Iron Sheets for Steam Cylinders.

Jonas, Meyer, & Colver; Steel Manufacturers; *Continental Steel Works, Bessemer Road, Attercliffe, Sheffield.*

Samples of Blister Steel, Cogged Bars, and finished Crucible Cast Steel, specially adapted for "fine tools," showing the different stages of manufacture, and the various tempers in which it is made for different purposes.

Jowitt, Thomas, & Sons; Steel, File, Saw, and Engineers' Tool Manufacturers; *Scotia Steel Works, Sheffield.* (*Agents in Paris, Perret et Cie, 8, Rue de Sambre et Meuse.*)

Steel of all kinds in bars, sheets, and forgings. Files, Saws, and Engineers' tools, &c.

Kenrick, Archibald, & Sons; Ironfounders and Patentees; *West Bromwich, near Birmingham.*

Cast-iron Cooking Utensils, tinned or enamelled on the inside. Cast-iron Enamelled Ware for sanitary purposes. Coffee, Drug, and Spice Mills. Smoothing Irons with removable wooden handles. General Builders' Ironmongery.

Kirby, Beard, & Co.; Pin and Needle Manufacturers; 18, *Cannon St., London.* *Works, Birmingham and Red-ditch; Paris, 5, Rue Auber.*

Pins, Needles, and Hair Pins in packets and fancy cases.

The Leeds Forge Company, Limited; (Samson Fox, Managing Director) Iron Manufacturers, Inventors; *Armley Road, Leeds, Yorkshire.*

Best Yorkshire Iron Boiler Plates, Flanged and Welded Boiler Plates, Locomotive Crank Axles in the rough and finished, Railway Straight Axles, Short Lengths and Bars, and specimens of materials in all stages of progress. Fox's patent corrugated Boiler Furnace Flue, made from the finest selected cold blast pig iron. It has the following advantages:—Increased strength against collapse; much thinner plate than usual may be used and higher pressure adopted with increased safety; increased heating surface; a more effective heating surface, due to flame impinging on corrugated surfaces; more elasticity longitudinally compared with a plain flue; increased circulating action of the water, due to steam being formed in the annular grooves or corrugations.

Lilleshall Company; Coal and Iron Masters, Engineers, Founders, &c.; *Priors Lee Hall, near Shifnal, Shropshire.*

Pig Iron of various qualities. Minerals consisting of Native Ironstone, raw and calcined. Coals and Coke.

The London & South Wales Coal Company, Limited; Colliery Proprietors; *London, Liverpool, Cardiff, and Newport. Works, Treherbert, Rhondda Valley, Glamorganshire, and Risca, Monmouthshire.*

"North Dunraven Merthyr" Upper Four Feet Smokeless Steam Coal and "Risca Black Vein" Steam Coal.

Londonderry, Marquess of; *Seaham, Durham.*

Coals: "Londonderry Hartley," for steam purposes. Londonderry Gas Coal, for the manufacture of gas and coke. Londonderry Primrose, for household use. Vane's Wallsend, for household use. Silksworth Nuts, for manufacturing purposes. Silksworth Peas, for blacksmiths' purposes. Londonderry Nuts, for household and steam purposes.

Marshall, Robert; Cannel Coal Merchant; 198, *St. Vincent St., Glasgow. Collieries, Newbattle, Edinburghshire, and West Wemyss, Fifeshire, Scotland.*

Sample of rich Cannel or Gas Coal, called the Marquis of Lothian's "Newbattle," yielding 12,573 cubic feet of 33·8 candle gas per ton and 1,046 lbs. of excellent coke, containing only 3·9 per cent. of ash per ton. Sample of rich Cannel or Gas Coal named "Old Wemyss," yielding 13,320 cubic feet of 32·62 candle gas and 1,035 lbs. of coke, containing 26·50 per cent. of ash per ton.

Marston, John; Japanner and Tin-worker; *Paul Street Works, Wolverhampton.*

Travelling Trunks, Coal Vases, Tea Trays, Dish Covers, and articles in Tin for domestic use.

Mason & Co.; Coal Merchants; *Custom House Chambers, Leith, and 5, Arthur St. East, London.*

A and B Cannel Gas Coal for manufacturing gas in large volume of great purity and high illuminating power. A and B soft and hard Steam Coal for economy, purity, endurance, and calorific force, the latter suitable for export on account of freedom from sulphur and non-liability to disintegration through frequent transhipment. A and B soft and hard Coal for domestic use, for purity, endurance, and freedom from ash, the latter suitable for export on account of non-liability to disintegration during transit and transhipment.

Milward, Henry, & Sons; Manufacturers and Inventors; *Washford Mills, Redditch; Paris, 65, Boulevard de Sebastopol.*

Needles, Sewing Machine Needles, and Fish-hooks, prepared from the finest English cast steel, perfectly hardened and tempered.

Montgomerie, John Cuninghame; Hone Manufacturer; "*Water of Ayr Stone*" Quarry and Hone Works, *Dalmore, Stair, Ayrshire, Scotland.* (Agent in *Paris, G. Hadfield, 92, Rue d'Hauteville.*)

"Water of Ayr Stone" Hone manufactured into Wheelstones, Segments for Circular Stones, Polishing Stones and Blocks for engravers and lithographers, &c. Curriers Octagon Clearing Stones, Joiners' Blocks, Slips and Lapstones for clock manufacturers, jewellers, silversmiths, engravers, &c. for sharpening and polishing purposes.

Morewood, E., & Co.; Manufacturers of Tin and Terne Plates and Sheets, Inventors; *South Wales and Cambrian Tin Plate Works, Llanelly South Wales.*

Plates and sheets of Iron coated with Tin and Terne Metal.

Nettlefolds; (also trading as "The Castle Iron Co.," and "The Imperial Wire Co.") Screw Manufacturers, Ironmasters, and Wire Drawers; 16, *Broad St., Birmingham. Works, Smethwick and King's Norton, Birmingham, and Wellington, Shropshire.*

All descriptions of Iron, Brass, and Copper Screws for wood or metal. Screw Hooks and Eyes, Gate Hooks and Eyes, special Hooks for Cotton Machinery; Cotter Pins; Bright Bolts and Nuts; all kinds of Iron Rivets; Pianoforte furniture; Ratchet Braces and Steam Lubricators. Bar Iron; Rolled Iron Rods, Rolled and drawn fencing and other Wire. Fencing Staples; Wire Nails, &c.

Newall, R. S.; Wire Rope Manufacturer, Inventor; *Gateshead-on-Tyne.*

Iron and Steel Wire Ropes for Colliery and Railway purposes, for Capstans, Guide Ropes, Suspension Bridges, Rigging, &c. Iron, Steel, and Copper Cords for Turret Clocks, Window Sashes, &c. Gilt and Silver Cords for hanging pictures. Submarine Telegraph Cables. Lightning Conductors.

Newport Abercorn Black Vein Steam Coal Co., Limited (T. BEYRON & Co., Shippers); 115, *Leadenhall Street, London. Colliery, Celynen, Newport, Monmouthshire, South Wales.*

Sample Blocks of Newport Abercorn Black Vein Steam Coal.

The North of England Iron Manufacturers' Association & The Cleveland Ironmasters' Association; *Royal Exchange, Middlesborough. Works situated in various parts of the North of England.*

Samples to illustrate the manufacture of Pig and finished Iron, also Steel, including specimens of Cleveland Ironstone, South Durham Coke, and Limestone. Specimens of Cleveland Pig and finished Iron. Specimens of Steel made in Cleveland, together with other products of the district.

Palmer, Morgan, & Co.; Coal Owners; *Cardiff; 48, Coal Exchange, London. (Paris, 5, Rue de Chateaudun.)*

Welsh Smokeless Steam Coal, "Palmer's Merthyr," Anthracite, and Coals for Engines, Gas, Forges, &c. (*See also Class 54.*)

Parsons, Perceval Moses; Civil Engineer, Inventor; *The White Brass Co., Lombard St., Southwark, London.*

Manganese Bronze in the form of Ingots, Castings, Forgings, Rolled Rods for Bolts, Pump Rods, &c. Sheets and Sheathing, Tubes, Wire, &c. Ingots of White Brass, No. 1 for solid bearings, No. 2 for filling or lining bearings, &c.

The Phosphor Bronze Co., Limited; Manufacturers and Founders of Phosphor Bronze Metal; 139, *Cannon St., London.*

Bearings and other parts of machinery which have been in use, showing the superior durability of the metal. Wire for Telegraphic purposes, for Mines (as pit ropes, signal wires), for Organs, and for Paper Makers, &c. Ornamental Castings; Harness Furniture; Tubes for Locomotives and Marine Boilers; Pressure Gauges; Sheets for sheathing Ships, and for numerous other purposes; Steam Fittings; Tools for Gunpowder Mills.

Pike, W. J.; Clay Merchant; *Wareham, Dorsetshire. Works, Isle of Purbeck.*

Specimens of fine Clays, for the manufacture of the finest pottery, and other purposes.

Read, Jefferson; Electro-Metallurgist, Inventor; *The "Arcanum" Plating Works, Louisa St., Parade, Birmingham.*

Objects in Steel, Cast, Wrought, Malleable, and Sheet Iron, electro-silver plated by a newly discovered process, by which the necessity for previously coating iron or steel with copper or other metal is obviated.

Richards & Co., Limited; Colliery Proprietors; 1, *Fenchurch Street, London. Works, Llannharan, South Wales. (Paris, Rue de Rome, 4.)*

Coal.

The Ryhope Coal Co., Limited; Colliery Owners; *Ryhope Office, Sunderland.*

Ryhope Hartley Steam Coal for Steam purposes. Ryhope Nut Coals for Household purposes. Ryhope Pea Nut Coals for Blacksmith purposes.

Seeböhm & Dieckstahl; Steel Manufacturers; *Dannemora Steel Works, Willey St., Wicker, Sheffield. (Agents in Paris, A. Grimault & Co, 66, Quai Jemmapes.)*

Swedish Iron, Cast and Blister Steel in Bars and Fractions, showing the appearance of the Steel in the various tempers and stages of manufacture from Iron into Cast Steel.

Shaw, John ; Manufacturer ; *Wire Rope and Fencing Works, Soho St., Sheffield.*

Gilt and Silver Picture Cord. Copper and Galvanized Wire Sash Cord. Copper Rope Lightning Conductors. Galvanized Fencing Strand. Galvanized Wire Rigging Ropes. Round and Flat Cast Steel and Charcoal Wire Ropes. Bridge Ropes and Cables. Iron Wire Conductors or Pit Guides. Steel Wire Ropes for Steam Cultivators.

Shelton Bar Iron Co. ; Iron Manufacturers ; *Stoke-on-Trent, Staffordshire ; and 122, Cannon St., London.*

Samples of Rolled Iron of various sections, including Angles, Tees, Joists or Girders, Channels, Rails, &c., and Plates.

Siddons, Joseph & Jesse ; *Hill Top, West Bromwich, Staffordshire.*

Enamelled and Tinned Cast Iron Hollow Ware, and a variety of domestic and other Ironmongery.

Smith, Frederick, & Co. ; Wire Manufacturers ; *Caledonia Works, Halifax, Yorkshire.*

Samples of Iron in its various stages of manufacture into wire for colliery ropes. Galvanized Wire for ships' rigging. Telegraph Wire, Card Wire, Reed Wire, Weaving Wire, Bonnet Wire, &c.

Smith, James, & Son ; Needle Manufacturers ; *Astwood Bank, near Redditch.*

Hand Sewing and Sewing Machine Needles, and Pack Needles, Mattress and Upholsterers' Needles, Surgeons' Needles ; Hair Pins ; Knitting Pins ; Netting Needles ; Crochet Hooks ; Bodkins ; Fancy Needle Cases, &c.

Smith, John Wright ; Self-acting Needle Maker ; 121, *Belgrave Gate, Leicester.*

Self-acting Needles for Stocking Frames and for weaving Stockings and Shirts.

Smith, William, & Son ; Patent Steel Wire Manufacturers ; *Dallam Wire Works, Warrington. (Agent in Paris, E. Muller, 66, Rue de Bondy.)*

Steel Music Wire for Pianoforte purposes. Steel Rope Wire for Mining purposes. Steel Plough Wire for Agricultural purposes. Galvanized Steel Wire for Ships' Hawseers. Bright Round Steel Wire for Sewing Machine purposes, Twist, Drills, &c. Pinion Wire for Clock and Watch purposes. Cast Steel Wire of every description ; also Lancashire Tools, viz., Pliers, Nippers, Bench Vices, &c.

The Snedahill Iron Co. ; Iron Manufacturers ; *near Shifnal, Shropshire.*

Samples of best quality Iron. Plates for high pressure and other Steam Boilers. Puddled Rods for making Screws, Springs, and drawing down into small sizes for general purposes. Charcoal Rods for Wire Ropes, &c. Plating Bars for Spades and Shovels. Bars for Chains, Ship Cables, Horse Shoes, and for all engineering uses. Angle and Rivet Iron for Steam Boilers.

Snellus, George James; Manager of Iron and Steel Works and Analyst; *Workington, Cumberland.*

Analyzed Specimens of Iron Ores and Fluxes, and tested samples of Iron and Steel to illustrate and elucidate the metallurgy of iron and steel.

South Derwent Colliery Co.; *Lombard St., Newcastle-on-Tyne.* *Collieries in the county of Durham.*

A block of West Pelaw Main Gas Coal. A lot of above Coal screened as delivered to Gas Companies. Samples of Coke made from the same Coal at Paris Gas Company's Works, and at the Colliery Coke Ovens. Sample of Butterknowle Coke, used for manufacture of Steel. Photographs of the Pits, of the Works, and of the Steamers employed by the Company.

Spencer, J. R., & Son; Manufacturers; *Albion Steel Works, Sheffield.*

Files and Cast Steel.

Spencer, Walter, & Company; Steel and File Manufacturers; *Midland Steel Works, Rotherham.*

Sample Bars of Steel and Sample Files.

The Swansea Tin Plate Co.; Manufacturers; *Swansea Works, Cwmbrorla, near Swansea.*

Tin Plates of the following qualities: BV. "Common Coke," "Pentre Best Coke," "Gloster Second Charcoal," "J. S. Best Charcoal," all in sheets. Tin Plates made up into various utensils.

Taylor, D. F., & Co.; (late Edelsten & Williams) Pin Manufacturers and Patentees; *New Hall Works, George St., Birmingham.* (*Agent in Paris, George Hadfield, 92, Rue d'Hauteville.*)

Solid Headed Pins. Hair Pins. Hooks and Eyes. Pearl Buttons. Iron, Steel, Brass, and Copper Wire. Rolled Metals of all descriptions.

Thomas, S., & Sons; Needle and Fish Hook Manufacturers; *British Needle Mills, Redditch.*

Hand Sewing Needles. Sail and Pack Needles. Mattress and Upholsterer's Needles. Surgeon's Needles. Sewing Machine Needles. Fish Hooks. Netting Needles. Knitting Pins. Bodkins, &c.

Thriscutt & Bale; China Clay Manufacturers; *St. Austell Works, Caudledown, near St. Austell, Cornwall.*

China Clay, or Kaolin, in its raw or rough state, prepared for shipment, fired and manufactured.

Turner, R., and Sons; Inventors and Manufacturers of Needles, Pins, and Fish Hooks; *Steam Mills, Redditch.*

Needles of all kinds. Brass and Steel Pins. Fish Hooks, &c.

Turton, Thomas, & Sons; Steel Manufacturers; *Sheaf Works, Sheffield*; 35, *Queen St., Cannon St., London*; 12, *Rue des Archives, Paris.*

Steel, Steel Tools, Steel Springs, Steel Files, &c.

Tweddell, MacLaren, & Co.; 5, *Queen Street, Newcastle-on-Tyne; Collieries, Dunfermline, Fife, Scotland.*

A block of Steam Coal named "Elgin Wallsend."

Tylor, A., & Co.; Colliery Proprietors for Smokeless Steam Coal; 123, *Bute St., Cardiff.* 5, *East India Avenue, London. Works, Ferndale Valley, near Cardiff.*

Block of Coal. Samples of Coal showing fracture, &c. A Map of the country showing position of Coal field. Sections showing the geological formation.

Vivian, H. H., & Co.; Brass and German Silver Manufacturers; 46, *George St., Saint Paul's, Birmingham.*

Sets of German Silver Spoons and Forks, of various patterns, plated and non-plated. Various samples illustrating the mode of manufacture. German Silver Sheets, and articles made from similar sheets. Specimens of refined Nickel, and samples illustrating the manufacture thereof. Specimen of Brass and Copper Boiler and Condenser Tubes. Brass Sheets and Wire.

Walker, James; 10, *Elmwood Place, Leeds. Mines, Bonavista Bay, Newfoundland.*

Samples of Kaolin and its productions. 1. Kaolin as taken from the mine. 2. Flour of Kaolin (China Clay) washed out of the above. 3. Quartz remaining after the washing. 4. Fire Bricks made from Kaolin. 5. Amethystine Quartz lying under the Kaolin. By analysis Kaolin is proved to consist only of pure Silica and Alumina.

Wardrobe & Smith; Manufacturers; *Meadow Steel Works, Well Meadow St., Sheffield.*

Sample Bars of Steel for the manufacture of Files, Edge Tools, Turning Tools, Chisels, Razors, Scissors, Table and Pocket Cutlery, Saws, Beetroot Knives, Wire, Cork Screws, &c.

Warrington Wire Rope Works, Limited; Wire and Wire Rope Manufacturers; 13, *Goree Piazzas, Liverpool. Works, Bewsey Ropery, Warrington.*

Samples of Wire Rope cut from pieces actually manufactured for use in Coal, Iron, Copper, and other Mines, for hoisting, winding, and inclined planes. Tunnel and Incline Ropes for Railways. Signal and Lamp Cords for Railways. Copper Lightning Conductor Rope. Sash and Picture Cord. Galvanized Iron and Steel Wire Rope for Ship's Rigging and Steel Wire Lanyard Rope.

The Waynes Merthyr Company, Limited; Colliery Proprietors, Iron Manufacturers, and Fire Brick Makers; *Bartholomew House, Bartholomew Lane, London. Collieries, Aberdare, South Wales.*

A piece of Steam Coal showing the section of one of the several seams worked by this Company, known as the South Wales Smokeless Coal.

The Western Merthyr Coal & Fuel Co., Limited; Manufacturers of Patent Fuel and Colliery Proprietors; *Swansea, Glamorganshire.*

Patent Fuel in blocks.

White, William, & Son; Ironmongers, Brass Founders, and Patentees of Gibbons' Door Furniture; 345, *Oxford Street, London.*

Door Knobs, Handles, and finger plates.

Whitwell, Thomas; Ironmaster, Inventor; *Thornaby Ironworks, Stockton-on-Tees.*

Model of Fire Brick Hot Blast Oven. Collections of Bessemer and other Iron made by this process. Drawings of the Hot Blast Ovens. Photographs of various works where the Whitwell Ovens are in use.

The Wigan Coal & Iron Company, Limited; Colliery Proprietors and Iron Smelters; *Wigan, Lancashire.*

Specimens of Arley Coal, used principally for Gas making and household purposes. Specimens of Cannel, used for Gas making and producing a large quantity of Gas of a high illuminating power. Specimens of Hematite Iron Ore, the produce of the Company's Mines at Messelmoun, near Cherchell, Algeria. Specimens of Pig Iron made from Messelmoun Ore exclusively. Specimens of Pig Iron made from other Ore. Section of Strata passed through in sinking the Lindsay Pit at Wigan. View of Ironworks, consisting of ten Blast Furnaces, at Kirkless, Wigan.

Wiggin, Henry, & Co.; Nickel and Cobalt Refiners and German Silver Manufacturers; 55, *George St., Parade, Birmingham.* (*Agent in Paris, Ph. Roux, 138, Rue Amelot.*)

Nickel and Cobalt Ores. Refined Oxides of Nickel and Cobalt. Metallic Nickel and Cobalt. Nickel Plates for Electro-depositing purposes. German Silver Sheets and Wires, drawn, rolled, and ornamental patterns. Blanks for Spoons and Forks, plain and ornamental stamped patterns.

Woodfield, William, & Sons; Needle and Fish Hook Manufacturers; *Easemore Works and Victoria Mills, Redditch, Worcestershire.*

Hand Sewing Needles. Sewing Machine Needles. Knitting, Netting, Tape, and Wool Needles. Crochet Hooks. Fancy Needle Cases. Surgical Needles. Fish Hooks and general Fishing Tackle.

Wright, W. B., & Company; Galvanized Iron Manufacturers; *St. Philips, Bristol, and 17, Gracechurch St., London.*

Galvanized Sheet Iron, flat and corrugated, various lengths to sixteen feet, and articles manufactured of Galvanized Iron.

CLASS 45.—PRODUCTS OF HUNTING, SHOOTING, FISHING, AND SPONTANEOUS PRODUCTS. MACHINES AND INSTRUMENTS CONNECTED THEREWITH.

Collections and drawings of terrestrial and amphibious animals, of birds, eggs, fishes, of cetacea, of mollusca, and crustacea.

Products of hunting and shooting: furs and skins, hair, bristles, undressed feathers, down, horn, teeth, ivory, bone, tortoise-shell, musk, castoreum, and analogous products.

Products of fishing : train oil, spermaceti, &c. Whalebone, ambergris, shells of mollusca, pearls, mother-of-pearl, sepia, purple, coral, sponge.

Vegetable products of the earth, obtained without culture : mushrooms, truffles, wild fruit, lichens used as dyes, food, and fodder ; fermented sap ; Peruvian bark ; useful barks and filaments ; wax, resinous gums ; india-rubber, gutta-percha, &c.

Traps and snares : fishing lines and hooks, harpoons, nets, bait, and fishing apparatus.

Apparatus and instruments for gathering the products obtained without culture.

Allcock, Samuel, & Co. ; Fish Hook, Fishing Rod, and Fishing Tackle Manufacturer ; *Standard Works, Redditch.*

Fish Hooks, Fishing Rods, Fishing Reels, Sea and River Lines, Artificial Baits, Artificial Flies, Silk Worm Gut, &c.

Bartleet, William, & Sons ; Manufacturers of Needles, Fish Hooks, and Fishing Tackle, Patentees ; *Abbey Mills, Redditch.*

Fish Hooks. Fishing Tackle. Fishing Rods. Silkworm Gut for fishing purposes. Exhibited in Class 43.

Buchanan, James ; Fish Hook Manufacturer ; 58 to 62, *Dale St., Tradeston, Glasgow.*

Sea Fish Hooks of all descriptions.

Dickson, William, & Co. ; Fishing Rod Manufacturers ; *Gilmore Park, West Fountainbridge, Edinburgh.*

Salmon and Trout Fishing Rods, with Improved Lock-fast Joints. Improved Landing Poles, Nets, Reels, and other fishing appliances.

Francati & Santamaria ; 65, *Hatton Garden, London.*

Shells and Cameos. (Exhibit also in Class 39.)

Jacob, Bernard ; Shell Importer ; 21, *Houndsditch, and 84, East India Road, London.*

Shells, Corals, and articles made from Shells.

Rolland, B. ; *Singapore.*

Natural History Objects : Stuffed Birds, &c. (Exhibited in Indian Section).

Ryder, William Henry ; Manufacturer and Inventor ; 48, *Ellis St., Birmingham.*

Fishing Winches and Tackle. New method of fixing reel or winch to rod, so that the rod held in any position balances in the hand. Champagne Taps or Syphons.

Stuart, John & William ; Cotton and Hemp Spinners and Net Makers ; *Esk Mills, Musselburgh, Scotland.*

Cotton and Hemp, prepared, spun, and twisted in Exhibitor's mills and woven into Nets by machinery constructed by Ex-

hibitors. The herring and mackerel Nets are made 800 meshes in breadth and up to 1,000 yards in length. A Selvage of stout cord is woven and can be knitted on the top and bottom, as usually required by the French fisheries. The size of the rows of meshes is accurately mentioned, and the knots are firm and cast on the best principle.

Woodfield, William, & Sons; Needle and Fish Hook Manufacturers; *Easemore Works and Victoria Mills, Red-ditch.*

Fish Hooks and general Fishing Tackle (exhibited in Class 43).

Wright, Robert; Fishing Rod and Fishing Tackle Manufacturer, Inventor; 16, *Princes St., Edinburgh.*

Fishing Rods, Reels, and Lines; Grilse Sea Trout, Loch and River Flies; Landing Nets, and Wading Boots and Stockings, and Angling Gear.

CLASS 46.—AGRICULTURAL PRODUCTS NOT USED FOR FOOD.

Textile materials; raw cotton, flax, and hemp, scutched and unscutched; textile vegetable fibres of all kinds; wool, washed or unwashed; cocoons of the silkworm.

Various agricultural products used in manufactures, in pharmacy, and for household purposes; oleaginous plants; oil, wax, resin.

Tobacco in leaves or manufactured. German tinder. Tanning and dyeing substances.

Preserved fodder, and substances specially intended for feeding cattle.

Draper, John; 22, *Great Winchester St., London.*

Specimens of Low Wools used in the manufacture of Carpets, &c. (*See also Class 85.*)

Grist Brothers; Rag Wool Manufacturers; *Marshall's Buildings, Huddersfield.*

Wools remade from Rags, used as substitutes for Wool.

Grunebaum, Joseph; Cigarette Manufacturer; 45, *Old Bond St., Piccadilly, London.*

Cigarettes made of the finest Turkish Tobacco.

Hall, Thomas Henry; Mungo and Waste Manufacturer; *Bright Mill, Grafton Street, Batley, Yorkshire.*

Mungo Shoddy and Waste for re-manufacture.

Marcovitch & Co.; Turkish Cigarette Manufacturers; 11, *Air St., Regent St., London.*

Turkish Tobacco in Leaf called "Dubec Aromatic," the same cut up for making Cigarettes, and Cigarettes manufactured from the same.

Sevin, Charles; Palm Nut Oil and Meal Manufacturer;
Palm Oil Mills, Morris Road, Chriss St., Poplar, and
155, Fenchurch St., City, London.

Palm Nut Kernels as imported from Africa. Palm Nut Oil used for soap making, extracted from the kernels by means of bisulphide of carbon instead of by the ordinary system of hydraulic presses. Palm Nut Meal in its natural coarse state. Palm Nut Meal ground fine, and Palm Nut Meal made into a cake, all for use as cattle food, and particularly suitable for milch cows.

Stafford, J., Sons, & Oswin; Cigar Manufacturers; *Campbell St., Leicester.*

Cigars made from Manilla and Havana Tobacco Leaf. Cigars made from Esmeralda Leaf Tobacco. (See also Class 71.)

CLASS 47.—CHEMICAL AND PHARMACEUTICAL PRODUCTS.

Acids, alkalis, salts of all kinds. Sea-salt and products extracted from mother water.

Various products of chemistry: wax and fatty substances; soaps and candles; raw materials used in perfumery; resins, tar, and the products derived from them; essences and varnishes; various coating substances; blacking. Objects made of india-rubber and gutta-percha; dyes and colours.

Mineral waters and natural and artificial aerated waters. Raw materials used in pharmacy. Medicines, simple and made up.

Allen & Hanburys; Pharmaceutical Chemists and Wholesale Druggists; *Plough Court, 37, Lombard St., London. Works, Lewisham Bridge, Lewisham, near London, and Longwa, Norway.*

Pure Cod Liver Oil. Different varieties of Pâte de Jujube, prepared by Hawker's Patent Process. Pharmaceutical preparations.

Atkinson, George, & Co.; Manufacturing Chemists; 66, *Aldersgate St., London.*

Chemical Productions, viz.: Refined Camphor. Iodide of Potassium. Bromide of Potassium. Bromide of Ammonium. Nitrate of Ammonia. Red Iodide of Mercury. Red Oxide of Mercury. Resublimed Iodine. Bromide of Cadmium. Iodide of Cadmium. Iodide of Lead. Oil of Almonds, expressed. Oil of Cloves and of Cubebs. Vermilion, crude, deep and pale. Other chemical productions.

Baiss, Brothers, & Co.; Wholesale Druggists; 4, *Jewry St., Aldgate, London.*

Choice specimens of Drugs.

Bashford, G. J. St. John; Manufacturer and Inventor of the Star Plate and Universal Polishing Powder; 91, *Rivington St., Shoreditch, London.*

A Plate Polishing Powder, a purely mineral preparation. It is entirely free from acids, mercury, or any injurious matter, and is also perfectly free from grit or any rough substance. It imparts an instantaneous brilliant and lasting polish to gold, silver, and electro-plated goods, and may be used with equal effect on brass, copper, tin, ivory, marble, plate, and every description of glass.

Beddow, B., & Son; Harness Composition Manufacturers; 22, *South Audley St., London.*

Propert's Improved Harness Composition, Saddle Paste, Dress Boot Varnish, Count D'Orsay's Waterproof Varnish, Breeches Paste, Boot Top Powder, Shoe Blacking (Liquid), Kid Reviver, Plate Powder, and various other polishes known as Propert's.

Berger (Lewis) & Sons; Fine Colour and Chemical Manufacturers, Quicksilver Melters, &c., Inventors; *Homer-ton, London.*

A collection of Vermillion, Carmines, Lakes, Emerald Greens, and superfine colours for Artists, Coach-builders, Printing-ink Makers, Lithographers, Paper Stainers, &c. Samples of Indigo, Cochineal, Quicksilver, Prussiate of Potash, Sulphate of Copper, and other bases of colours.

Bewley & Draper; Mineral Water Manufacturers; 23, *Mary St., Dublin.*

Aërated Waters as Beverages. Aromatic Ginge Ale. Lemonade, Ginger Beer, Soda, Potash, and Lithia Waters. Also in imitation of natural Mineral Waters, Seltzer, Püllna, Carrara, &c.

Bowdler & Bickerdike; Manufacturing Chemists; *Eagle Chemical Works, Church, Lancashire.*

Absolute Phenol (pure carbolic acid), Glacial and Granular, prepared expressly for medicinal and surgical purposes. Crystallized and liquid Carbolic Acid of all qualities for medical and manufacturing purposes. Crystallized Carbolic Acid prepared for manufacture of Salicylic Acid. Carbolic and Cresylic Acids for disinfecting. Coralline. Coralline Lake. Picric Acid, &c.

Boyd, Son, & Co.; Manufacturing Chemists; 76, *Sir John Rogerson's Quay, Dublin.*

Sulphate of Soda (Hargreaves) for Glass making. Bleaching Powder (Chloride of Lime).

British & Foreign Mineral Water Company; Manufacturers; 382, *New City Road, Glasgow.*

Aërated Beverages and Artificial Mineral Waters.

Brooke, Simpson, & Spiller; Aniline Dye Manufacturers, Inventors; *Atlas Works, Hackney Wick, London; and 50, Old Broad St., London.*

Series of Dyes, Colouring Matters, and other Products derived from Coal Tar.

Broomhead, George Emmett; Chemist, Inventor, and Manufacturer; 11, *Union Place, Aberdeen.*

Cod Liver Oil Emulsion with Pepsine, and Hypophosphite of Lime (rendered palatable) Pepsine Wine (a concentrated solution of Pepsine in wine) Chemical Food (rendered more agreeable).

Brown, Edward, & Sons; Blacking Manufacturers, Inventors; 67, *Princes St., Leicester Square, London.*

Blacking and Boot Varnishes, &c. Specimens shown on boots and shoes.

Burgoyne, Burbidges, Cyriax, & Farries; Manufacturing Chemists and Wholesale Druggists; 16, *Coleman St., London.*

Pure Chemicals and Pharmaceutical products.

Bush, W. J., & Co.; Manufacturing Chemists, Inventors; 20 to 23, *Artillery Lane, Bishopsgate Street Without, London. Works, Ash Grove, Hackney, London.*

Essential Oils and Fruit Essences for perfumery, confectionery, and medicinal purposes. Harmless colours for confectionery purposes.

Cantrell & Cochrane; Manufacturers of Aërated, Mineral, and Medicinal Waters; *Nassau Works, Dublin; apu Cromac Works, Belfast. (Agent in Paris, A. Pellissier, 64, Rue Vieille du Temple.)*

Seltzer, Lithia, and Potass Waters. Lemonade. Aromatic Ginger Ale, &c.

Carruthers & Allan; Chemical Manufacturers and Inventors; 60, *Robertson St., Glasgow, and at Dumfries.*

Crystalline Rainbow Dyes, specially prepared for domestic use, dyeing silken and woollen goods, feathers, leather, grasses, &c. to any colour by simple immersion in water solution; used also for making coloured inks and wood stains, and as general colouring agents. Patent Camphorated Furniture Polish for cleaning and preserving all kinds of furniture, and for keeping away insects, and producing a fresh agreeable odour in bed-rooms, smoking rooms, &c.

Chambers, James, & Co.; Chemical Manufacturers and Drysalterers; 73, *Great Tower Street, London. Works, Charlton, Kent, and Brick Hill Lane, London.*

Chemicals of various descriptions, such as Tartaric and Oxalic Acids, Sal Acitos, Sugar of Lead, Bichromate of Potash, Gums, Drugs and Drysalteries, Sulphate of Copper, Caustic Soda-Alum, Arsenic, Borax, and Camphor.

Colman, J. & J.; Mustard, Starch, Washing Blue, and Corn Flour Manufacturers, Inventors; 108, *Cannon St., London*; and *Carrow Works, Norwich*.

Washing Blue. (See also Classes 52, 69, and 74.)

Cook, Edward, & Co.; Soap Manufacturers and Tallow Melters; *East London Soap Works, Bow, London*.

Hard and Soft Soaps, for household and general use; also Soaps specially adapted for use in the woollen, cloth, silk, lace, paper, and other manufactures. Specimens of Pure Beef, Mutton, Marrow, and other fats rendered chemically pure and sweet by Exhibitors' Patent Process. (Exhibit also in Class 51.)

Corry, William, & Co.; Aërated Water Manufacturers, Inventors; *Cromac Springs, Cromac St., Belfast*.

Samples of perfectly pure Aërated Waters, comprising Ginger Ale, Lemonade, Quinine, Aromatic Tonic, Soda Water, Potass or Kali Water, Sarsaparilla, Summer and Winter Beverages, Cromac Seltzer Water, Fruit Nectar, Lithia, Carrara, and Carbonated Cromac Waters.

The Desoto Alkali Co., Limited; Manufacturers; *Widnes, Lancashire*.

Caustic Soda. Soda Crystals. Black Ash.

Everett & Co.; Blacking Makers, Inventors; 51, *Fetter Lane, London*.

Blacking and Varnish for boots. Kid Leather Renovator.

Fayolle, Gustave; Manufacturer of Chemical Products; 47, *Mark Lane, London*.

New Fast Aniline Dyes, produced by a new process for dyeing and printing. (Indigo, Cochineal, Orchella, &c.)

Forster & Gregory; Manufacturing Chemists; *Lonesome Chemical Works, Streatham Common, near London*.

General Chemicals, Chemicals specially prepared for the use of India-rubber Manufacturers, especially for the colouring and vulcanizing of india-rubber, both solid and on fabrics.

Gerrard, A. W.; Manufacturing Chemist; 153, *Liverpool Road, London*.

Pilocarpine, an alkaloid prepared from jaborandi, and some of its salts. Chrysophanic Acid, an organic substance obtained from goa powder. Medicated supposititious Pessaries and Bougies. Adhesive Plasters especially prepared for the Surgical Operator, combining strength, adhesion, and adaptability. Bromides of various alkaloids. (Exhibited in Messrs. Morson and Sons' case.)

Gidney, Clark, & Co.; Varnish Manufacturers; *West Ham Abbey, Stratford, London*.

Varnishes of every description. Gums, from New Zealand, Africa, the Borneo Islands, South America, &c., both in the rough state and clean, used in the manufacture of varnish. Articles illustrating the use of Varnish.

Glover, Henry, Son, and Co., Limited; Manufacturing Chemists, Drysalts, &c., Inventors; *Hammerton St., Leeds Road, Bradford, Yorkshire.*

Dry Soap, Soap Extract, and Washing Powders, possess great detergent, scouring, and cleansing properties, are of great purity, and being highly saponified produce a beautiful lather. Universal Baking Powders, warranted perfectly pure and free from any deleterious or injurious ingredients.

Golding, Davis, & Co., Limited; Alkali Manufacturers; *Marsh Alkali Works, Widnes, Lancashire.*

Caustic Soda (hydrate of soda), white 60-62 per cent. and 70-72 per cent. Bleaching Powder (chloride of lime) 40 per cent. available chlorine. Salt Cake manufactured by Hargreaves and Robinson's Patent Process, free from chloride.

Griffiths, Fletcher, & Berdoe; Paint Manufacturers; 30 and 32, *Seel St., Liverpool*; and 107, *Cannon St., London.*

"Griffiths' Patent White," a non-poisonous substance of snow-like whiteness, of permanent colour, and totally unaffected by sulphuretted hydrogen gas or atmospheric influence; equal in body to best white lead with same covering power, and 30 per cent. greater bulk.

Hemingway, S., & Co.; Dry Soap Manufacturers, Inventors; *Bradford, Yorkshire.*

New Dry Soap for cleansing, scouring, and bleaching linen, cotton, flannel, woollens, &c., also for domestic and manufacturing purposes. Baking powder for making bread, pastry, puddings, &c., light and more wholesome.

Hodgson & Simpson; Soap Makers; *Calder Soap Works, Wakefield.*

Household Soaps. Toilet Soaps. Queen's Condensed Soap in powder. Crystals of Soda.

Hudson, Robert Spear; *Royal Chemical Works, West Bromwich*; *Bank Hall St., Liverpool*; and 83, *Worship St., London.*

Extract of Soap and Dry Soap. These articles are soluble powders and possess valuable lathering and detergent properties.

Hurlet and Campsie Alum Company; Chemical Manufacturers; 115, *Wellington St., Glasgow*. *Works, Campsie and Falkirk, Stirlingshire.*

Crystals of Yellow and Red Prussiate of Potash, of large size and extreme purity.

Hutchison, Robert; Oil Manufacturer and Refiner, Inventor; *Springvale Oil Mills, Cowlairs, Glasgow.*

Patent Red Lubricating Oil, *especially adapted* for the lubrication and preservation of sewing machines, guns and small arms, and polished or burnished metals. Patent Red Lubricating Oil, *especially adapted* for the lubrication and preservation of chronometers, watches, and clocks. Both Oils are perfectly pure, have no smell, and are chemically neutral.

Inman Bros. ; Mineral Water Manufacturers ; *Aspley Place, Firth St., Huddersfield.*

Soda, Potass, Lithia, and Seltzer Waters. Pure Aerated Water. Lemonade. Ginger Beer. Colouring for spirits or any other liquid.

James, Edward, & Sons ; Manufacturers of Starch, &c., Inventors ; *Sutton Road, Plymouth. (Agent in Paris, E. Laurier, 24, Rue des Halles.)*

Starch for laundry and manufacturing purposes. Laundry Blue. Blacklead for household and manufacturing purposes (speciality "Dome Blacklead"). Washing Powders, comprising various alkaline preparations used as economical substitutes for soap.

Jarratt Bros. ; Dry Soap Manufacturers ; *Jesse¹ Street, Manchester Road, Bradford, Yorkshire.*

Dry Soap.

Jennings, Thomas ; Chemical Manufacturer ; *Chemical Works, Cork, Ireland.*

Carbonate of Magnesia in blocks of various sizes and in powder. Calcined Magnesia in bottles and tins; all of the best and purest quality.

Jenson & Nicholson ; Varnish and Japan Manufacturers ; *65, Goswell Road, London. Works, Warton Road, Stratford, Essex. (Sole Agents for France, Delattre et Fils, Rue du Renard.)*

Oil Varnish, for the use of carriage builders and house painters. Spirit Varnishes for various kinds of cabinet work. Japans for carriage painters.

Kirby, H. & T., & Co. ; Wholesale Chemists and Medical Outfitters, Inventors ; *14, Newman St., Oxford St., London.*

Portable Medicine Cases for military, naval, and exploring expeditions. Miniature Dispensaries for field and cottage hospitals, sanatoria, and asylums. Portable Hospital Medicines in concentrated forms and doses ready for use. Tasteless Medicines. Pharmaceutical Preparations. Pil Phosphori Mollis (Dr. Kirby's process). Phosphorus Pilules and Glycecols or Jelly Lozenges (a new form of medicine).

The Langthorne Chemical Works ; *Stratford, London.*

Refined Saltpetre of great purity, in crystals and granulated. Acetate of Soda. Acetic Acid of various qualities and strengths. Nitrates of Barium, of Strontium, of Ammonium, and of Sodium. Chlorates of Barium, Sodium, and Strontium. Chemically Pure Mineral Acids. Sulphuric Nitric Chlorhydric.

Leech & Neal ; Colour Manufacturers ; *City Road, Derby.*

Turkey Reds. Venetian Reds. Indian Reds. Purple Browns. Oxides of Iron, &c., used by decorators, painters, coach-makers, and iron manufacturers, and especially adapted for the preservation of all iron work. Jewellers' Rouge. Crocus.

Levinstein, L. J., & Sons; Colour and Chemical Manufacturers, Inventors; 17 and 18, *Railway Approach, London Bridge, London*; 21, *Minshull St., Manchester Works, Blackley, near Manchester.* (*Paris, 1 Place Boieldieu.*)

Aniline Dyes, and Raw Materials for their manufacture.

The Liver Alkali Works Co., Limited; Alkali Manufacturers; *Lightbody Street, Liverpool.*

Samples of Caustic Soda in three qualities.

Lowe, Chas., & Co.; Manufacturing Chemists, Inventors; 61, *Piccadilly, Manchester.* Works, *Reddish, near Stockport.*

Products from Coal Tar. Carbolic Acid, and its derivatives.

Macfarlan, J. F., & Co.; Manufacturing Chemists; *Edinburgh*; and 5, *Barge Yard, Bucklersbury, London.*

Preparations from Opium. Beberine and Salts. Chloroform. Antiseptic Preparations. Salicin.

Mackay, John, & Co.; Manufacturing Chemists, &c.; *Canning St., Alhale Crescent, Edinburgh.*

Varnishes and Polishes for all kinds of white and coloured woods and the raw materials from which they are made. (*See also Class 73.*)

Mactear, James; Fellow of the Chemical Societies of London and Paris; *St. Rollox Chemical Works, Glasgow.*

Specimens illustrating his various improvements in the manufacture of Black Ash, Soda Ash, Soda Crystals, Caustic Soda (of specially pure quality). Also the regeneration of the Sulphur from Alkali Waste. At the St. Rollox Works over 6,500 tons of sulphur have been extracted from alkali waste by the Mactear process. (Exhibited in Messrs. Charles Tennant & Co.'s case.) (*See also Class 53.*)

Mander Brothers; *Wolverhampton*; and 17, *Gracechurch St., London.* (*Paris, 6, Rue de l'Entrepot.*)

Varnishes, and articles showing the application of varnish in the useful arts.

Mawson & Swan; Operative and Photographic Chemists, Inventors; *Mosley St., Newcastle-on-Tyne.*

Specimens of Collodion, Photographic and Pharmaceutical, together with tissues prepared from the same, and other examples illustrating the various uses of Collodion; also Chemicals.

Morson, Thomas, & Son; Manufacturing Pharmaceutical Chemists; 31, 33, and 124, *Southampton Row, Russell Square, London*; *Manufactories, Summerfield Works, Homerton, and Hornsey Road, London.*

Chemical and Pharmaceutical Products, comprising creosotes extracted from wood. Aconitine Amorphous and Crystalline Aloine; Acid Chrysophanic; Hydrobromate Codiae; Pepsine; Salacine; Chloride Nickel; Zinc Valerianus Cryst, &c.

North British Chemical Company, Limited; 149, *Hope St., Glasgow. Works, Whitecrook, Clydebank, Dumbartonshire; Middleton, Tyree, Argyllshire; Loch Eport, North Uist, Inverness-shire; Freagh, County Clare, Ireland. (Agent in Paris, E. Couriot, 30 Rue Vieille du Temple.)*

Iodine, Bromine; Iodide and Bromide of Potassium; Carbonate; Sulphate; Chloride and Chlorate of Potassium; Caustic Soda; Seaweed Charcoal, and specimens showing its application to sewage.

Oakbank Oil Co., Limited; Manufacturers of Mineral Oils, Paraffin, &c.; 128, *Ingram St., Glasgow. Works, Midcalder, Midlothian, Scotland.*

Specimens of the Shale and of the products obtained from it by distillation and refining: 1, Kerosene; 2, Mineral Colza; 3, Lubricating Oil; 4, Cylinder and Valve Oil; 5, Paraffin Scale; 6, Paraffin Wax; 7, Gas Oil; 8, Sulphate of Ammonia.

Price's Patent Candle Company, Limited; Manufacturers of Candles, Night Lights, Soaps, Oils, &c., Makers and Inventors; *Belmont Works, Battersea, London; and Bromborough Pool, near Birkenhead.*

Candles, Night-Lights, Stearine, Paraffine, Burning Oils; Soaps, Glycerine; Lubricating Materials; Fatty Acids; Machinery Oils and Cloth Oils.

Reade Brothers; Varnish and Japan Manufacturers; 62 & 63, *Victoria St., Wolverhampton.*

Samples of Varnishes and Japan, with specimens of the effect of the same in wood and metal, and also specimens of some materials used in making varnish.

Readman, James Burgess; Manufacturing Chemist; 175, *Buchanan St., Glasgow, and Forth and Clyde Chemical Works, Kirkintilloch, Scotland.*

Phosphate of Soda. Sulphite of Soda. Stannate of Soda. Citric Acid. Specimens of the above, showing the sources from whence derived, the various stages in the process, the finished article. Phosphorus. Specimens showing the raw material, the various stages in the process, the retorts, &c. used, the crude phosphorus, the refining and moulding, the finished phosphorus, the packing, &c.

Richardson, John, & Co.; Manufacturing Pharmaceutical Chemists, Inventors; 10, *Friar Lane, Leicester.*

Pearl Coated Pills. Pearl Coated Phosphorus Pills. Various Chemicals for medical purposes. Pharmaceutical Preparations used in medicine. Various Medical Specialities. Phosphorised Cod Liver Oil Emulsion. Compact Medical Chests for colonists, &c. Emergency Cases, or Pocket Pharmacies. Medicine Cases for emigrants.

Robinson & Anderson; White Lead and Colour Manufacturers; *Macks Road, Bermondsey, London.*

White lead made from metallic lead by a new process of precipitation. (Exhibited in Messrs. Wilson & Co.'s Case.)

Rolls, Schweizer, & Co.; Varnish, Japan, and Colour Mill Manufacturers; 28, *Poole St., New North Road, London. Works, Belle Isle, King's Cross, London; and Mitcham, Surrey.*

Varnishes and Black Japan for coach builders, railway companies, and house decorators. Colour Grinding Mills for all businesses.

Rose, Sir W. A., & Co.; Oil Refiners, Varnish Makers, Railway Grease Manufacturers, &c.; 66, *Upper Thames Street, and Vintry Wharf, Upper Thames Street, London.*

Oils, Railway Greases, and other Lubricating Compounds. Varnishes, Paints, Leads, Zinc Paints, and various Pigments and Colours.

St. Bode Chemical Co., Limited; 1, *St. Nicholas Buildings, Newcastle-upon-Tyne.*

Samples illustrating the manufacture of Soda from common salt by Le Blanc's process.

The Runcorn Soap and Alkali Company, Limited; Chemical Manufacturers and Copper Precipitators; 6, *Water St., Liverpool. Works, Runcorn, Weston, Widnes, and Winsford.*

Bleaching Powder, Soda Ash, Soda Crystals, Caustic Soda, Sulphate of Soda, and Refined Rosin.

Sampson, Brothers; Mineral Water Manufacturers; *Spring Bank Works, Sutton-in-Ashfield, Nottinghamshire.*

Aerated and Artificial Mineral Waters manufactured with pure spring water only, viz., Seltzer, Lithia, Potass, and Soda Waters; Lemonade and Ginger Ale.

Savory & Moore; Pharmaceutical Chemists, Inventors; 43, *New Bond Street London.*

A Chemical Cabinet designed by E. A. Parkes, Esq., M.D., F.R.S., Professor of Hygiene at the Royal Military Hospital, Netley. Medicine Chests of improved design. The Medicine Chest designed for and supplied to H. M. Stanley, Esq., the African explorer, exhibited as received. Surgical Appliances, &c. Gelatine Preparations invented or introduced by Exhibitors. Food Preparations. Infants' Food, Pancreatic Emulsion, Pancreatine, Pepsine, Peptodine. Special Medicines and Chemicals.

Schweppe, Jacob, & Co.; Mineral Water Manufacturers, Inventors; 51, *Berners St., London; and at Liverpool, Bristol, Glasgow, Derby, and Sydney, New South Wales.*

Aërated Waters.

Shaw, Henry, & Co.; Chemical Manufacturers, Inventors; *Dukinfield, near Manchester.*

Dry Soap, for washing clothes, floors, paintwork, &c. French Blue in squares, for laundry purposes.

Silicate Paint Company; Paint Manufacturers, Inventors;
30 and 32, *Seel St., Liverpool*; and 107, *Cannon St., London*.

Silicate Paint, dry and ground in oil. Silicate Enamelling Paint. Silicate Petrifying Liquid for damp walls, and as a cheap washable internal decoration in lieu of wall paper. Silicate Marine and Antifouling Paint, for use on ships, &c. Boards, Tiles, Bricks, Iron, Zinc, &c., painted with the above.

Simpsons, Payne, & Co.; Chemical and Candle Manufacturers; *Chemical Works, Millwall, London*.

Sulphate of Ammonia. Paraffin, Stearine, and Composite Candles. Toilet Soaps. Pure Glycerine. Lamp Night Lights. Night Lamps.

Sims, William; Brewer and Botanical Distiller, Inventor;
Lion Brewery and Distillery, Reading.

Patent Botanical Distillation, for the cure of deafness by outward application. It relieves earache, headache, neuralgia, and noises in the head.

Smith, John Martin; Chemical Manufacturer and Inventor;
Hampton Chemical Works, 38, Borough Road, Southwark, London.

Disinfecting Cleansing Powder, for scrubbing, cleansing, whitening, and purifying floors, destroying vermin, &c. Washing Compound for washing linen without injury to the fabric. Deodorizing Powder (the original pink carbolic), a powerful disinfectant.

Smith, T. & H., & Co.; Manufacturing Chemists, Inventors;
21, *Duke St., Edinburgh*; and 12, *Worship St., London*. *Works, Blandfield Chemical Works, Canon Mills, Edinburgh*.

Morphia, Codeia, Narceine, the leading narcotic principles of opium. Strychnine, active principle of *Nux Vomica* seeds. Salicine, active principle of Willow Bark, a specific in rheumatic fever. Santonine, active principle of *Semen Contra* or *Cynæ*, the most reliable vermifuge known. Cantharidine, active principle of the *Cantharis Vesicatoria*, or Spanish Fly, the most powerful vesicant known. Tela Vesicatoria, or blistering tissue, prepared from Cantharidine. Alori, the crystalline active principle of Aloes.

Smith, Thomas Ogilvie; Manufacturer, Inventor; *Grass Market, Edinburgh*.

"Royal Edinburgh Liquid Blue," used for the beautifying of linen, &c., after washing.

Southall Brothers & Barclay; Manufacturing Chemists, Inventors; *Birmingham*.

Specimens of A¹ Cod Liver Oil, showing its composition in illustration of the exhibitors' process for removing the less digestible solid fats to better suit it to the wants of invalids, and to render it less liable to deposit in winter or in cold climates. Fine Chemicals for use in analysis and research, guaranteed to be absolutely pure: (a.) Pharmaceutical Pre-

parations from analyzed drugs; (b.) New Pharmaceutical Preparations. Soluble Meat containing the whole of the meat differing in this respect from the Extracts of Meat, which contain only the extractive and saline, but not the essential flesh-forming matters.

Spence, Peter; Manufacturer, Inventor; *Pendleton Alum Works, Manchester.*

Alum and Aluminoferric Cake.

Storer, David, & Sons; Paint and Colour Manufacturers; *Sydney St., Glasgow. (Agent in Paris, .)*

Paints and Colours used for painting and decorating purposes, e.g., paper-hangings and stainings; House Painting (interior and exterior); Carriage Painting.

Tennant, Charles, & Co.; Manufacturing Chemists; *St. Rollox, Glasgow. Works, St. Rollox; Glasgow, Hebburn-on-Tyne; and Carnoustie,*

Specimens illustrating the manufacture of bleaching powder and of alkali. Caustic Soda of (specially high degree), and Regeneration of Sulphur from alkali waste by the Mactear processes.

Turner, Charles, & Son; Varnish and Colour Manufacturers; 7, 8, and 9, *Broad St., Bloomsbury. Works, Broad St., Bloomsbury, George Yard, White-chapel, London, and at Merton and Plaistow.*

Varnishes of every description suitable for coach builders, railway carriages, tram cars, and decorative purposes. Colours of every kind suitable to the above. The various Gums, Oil, and Turpentine used in the manufacture of the Varnishes exhibited.

Twelvetreves, Harper, & Son; Manufacturing Chemists, Inventors; *Cordova Chemical Works, Copperfield Road, Bow, London.*

Wool Scourer, Australian. Soap Powder, Glycerine. Cleansing Crystal. Ball Blue, ultramarine. Square Blue, ultramarine. Baking and Egg Powders. Seidlitz Powders.

The Tyne Alkali Co., Limited (J. CAMERON SWAN, Managing Director); Chemical Manufacturers; 1, *Dean St., Newcastle-on-Tyne. Works, South Shields.*

Soda Ash of 52% English. Chlorate of Potash in crystals and in powder. Native Carbonate of Barytes. Permanent or Satin-white from the Carbonate of Barytes.

The Washington Chemical Company; Manufacturers, Inventors; *Newcastle-upon-Tyne. Works, Washington, Durham.*

Blocks of pure Carbonate of Magnesia.

Weldon, Walter; Inventor; *Rede Hall, Bairstow, Surrey.*

Model of Apparatus and Specimens of Products illustrating the Weldon process for the manufacture of chlorine.

Wenger, Albert; Colour Manufacturer and Dealer in Materials and Implements for Potters' use; *Parker St. Works, Hanley, Staffordshire.*

Colours for potters' use. Underglaze colours for printing, painting, &c. on pottery. Enamel colours, glazes, &c. for pottery. (See also Class 53.)

Wilkinson, Heywood, & Clark; Varnish and Colour Manufacturers; *Caledonian Works, Battle Bridge, King's Cross, London; and West Drayton, Middlesex.* (Agent in Paris, *H. Gaudemont, Rue de Rivoli, 16.*)

Varnishes. Dry Colours and Ground Paints used by coach builders, railway carriage builders, decorators, shipbuilders, and others. Gums, Oils, and other raw materials used in the process of manufacture.

Williams, Thomas & Dower; Manufacturers of Aniline Dyes, Inventors; *Star Chemical Works, Brentford, Middlesex, and Fulham, near London.*

Magenta Base (Rosaniline). Samples of Aniline Blues, Soluble and Alkaline. Binitrobenzol Crystallized. Bismarck Brown. Chrysoidine, commercial product, and derivatives. Phenylene Diamine Crystallized. Induline, several qualities, &c.

Wilson & Co.; Paint and Colour Manufacturers; *East London Colour Works, Jubilee Street, Mile End, London.*

Cochineal and other Lakes, Emerald Green, Persian Red, Aniline Dyes, and all Colours used by Paperstainers, Artificial Flower Makers, Painters, &c.

Wright & Holdsworth; Soap Manufacturers, Inventors: *91, St. James's Road, Brixton, London.*

Naldire's Flea-killing Soap for dogs. Naldire's Powders for dogs. Smith's Rose Tooth Cream.

Wyndham, F., & Co.; Merchants, Inventors; *37, Eastcheap, London.*

"Esprits des Œufs," a powerful tonic for consumption, debility, &c., compounded of seven different ingredients. "Elixir Lozenges," a remedy for cough and throat irritation, compounded of ten ingredients. (Exhibited in Messrs. Morson and Sons' case.)

The Yorkshire Varnish Company; Varnish and Colour Manufacturers; *39, Upper Thames St., London. Works, Ripon, Yorkshire.*

Elastic Oak, Maple, Carriage and Body Varnishes of the finest quality. French White Oil. Crystal Paper Varnish. Black Japan. Albarine or White Enamel. Goldsize. Terebine. Gums used in the manufacture of the above-named varnishes. Colours for decorators.

Young's Paraffin Light & Mineral Oil Company, Limited;
 Mineral Oil Manufacturers; 13, *Dundas St., Glasgow.*
Works, West Calder, Bathgate, and Edinburgh.
 (Agent in Paris, *J. S. Brown, 2, Cité Trevisé.*)

Bituminous Shale and Coal. Crude and Partially Purified
 Oils and Paraffin from shale. Burning Oils and Lubricating
 Oils. Refined Paraffin. Candles. Lamps. Sulphate of
 Ammonia, and Shale. Naphtha.

**CLASS 48.—CHEMICAL PROCESSES FOR BLEACHING, DYEING,
 PRINTING, AND DRESSING.**

Specimens of threads and fabrics, bleached or dyed. Specimens of fabrics prepared for dyeing.

Specimens of printed or dyed linen, of printed cotton fabrics, pure or mixed. Specimens of printed worsted or woollen fabrics, pure or mixed, combed or carded.

Specimens of printed silk fabrics, pure or mixed.

Specimens of printed felt or cloth carpets. Oil-cloth.

Ashton, F. W., & Company; Calico Printers; 45, *Portland St., Manchester.* *Works, Hyde, near Manchester.*
 (Agents in Paris, *Patte Frères, 10, Rue des Jeuneurs.*)

Printed Calicos as specimens of printing and finishing.

Dalglish (R.) Falconer & Co.; Calico Printers; *Glasgow and Manchester; Works, Lennox Mill, Stirlingshire.*

Printed Cotton Dress Stuffs, Printed Muslins. Printed Stuffs for Furnitures. Printed Calicos for Shirtings. Printed Handkerchiefs.

Palmer & Story; Manufacturers and Finishers; *Holme Works, Carlisle.*

Silaseas, Brocades and Italian Cloths for tailoring purposes. Zanella and Umbrella Cloths for umbrella makers, as specimens of dyeing and finishing.

Ripley, Edward, & Son; Dyers and Finishers; *Bradford, Yorkshire.* *Works, Bowling Dye Works, near Bradford.*

Worsted, Alpaca, and Mohair Goods of various descriptions as specimens of dyeing and finishing.

Schwabe, Salis, & Co.; Calico Printers; 41, *George St., Manchester, and Rhodes Works, near Middleton.*

Cotton Prints for garments, chintzes, and furnitures, as specimens of printing and finishing.

Seligmann & Haarblicher; Manufacturers and Dyers; 33, *Dickinson St., Manchester; and Wood St. Dye Works, Middleton, Lancashire.*

Blue Dyed Salempores, Guinees, Bafts, Morees, Succatoons, and Drills, as specimens of dyeing and finishing.

Serre, Achille; Silk Dyer. Inventor; 57 and 59, *Mayfield Road, Dalston, London.*

Ribbons, silks, and other goods of silk manufacture bleached, dyed, and dressed by a chemical process without impoverishing the fabric.

Turtle & Pearce; Flag and Banner Manufacturers; 11, *Duke Street, London Bridge, London.*

Banners illustrating the classification of the various groups into which the Exhibition is divided, shown as specimens of dyeing on bunting.

CLASS 49.—LEATHER AND SKINS.

Raw materials used in the dressing of skins and leather.

Raw hides, salted hides. Tanned, curried, dressed, or dyed leather. Varnished leather.

Morocco and sheepskin; skins grained, shamoyed, tawed, dressed, or dyed. Prepared skins for glove-making. Skins and furs, dressed and dyed. Parchment.

Gutwork: strings for musical instruments, gold-beater's skin, sinews.

Clark, Son, & Morland; Sheepskin and Angora Goat Skin Rug Manufacturers; *Glastonbury, Somerset.*

Hearth Rugs, Toilet Rugs, Carriage Rugs, Saddle Rugs, Door Rugs, manufactured from the skins of sheep and goats.

Cooper, Frederick Eden; Leather Manufacturer; 29, *Crimscott St., Bermondsey*, and 107, *High Holborn, London*, and 44, *South Bridge, Edinburgh.*

Moroccos, Roans, and Fancy Calf.

Deed, John S., & Sons; Leather Manufacturers; 451, *Oxford St., London.*

Moroccos for furniture, carriages, bookbinding, &c. White Leather for boots and shoes, masonic aprons, musical instruments, &c. Calf Kids, boot tops. Enamelled and japanned Hides for carriage builders. Sheep and Angora Goatskin Rugs.

Dixon, (John), Sons, & Taylor; Tanners and Leather Merchants; *Manning St., Bermondsey.*

Hides for Harness, Split Hides, for coach makers and boot makers. Bellies, Butts, and Shoulders for boots and shoes.

Evans, P. & S., & Co.; Tanners; *Avonside Tannery, Bristol.* (*Agent in Paris, T. Geisler, 20, Rue de l'Entrepôt.*)

Sole Leather for army, colliery, and general use, one, two, and three years in process of manufacture. Hippopotamus Leather, four years in tanning.

Flitch, J. J., & Son; Leather Manufacturers; *Springwell Leather Works, Bustingthorpe, Leeds.*

Moroccos, Roans, Skivers, Coloured Calf, Russia Hides, Kid-Calf, Levant Goats, and Seals; also Chamois and Glue.

Frost, Edwin; Chamois Leather Manufacturer; 197, *Upper Thames St., London. Works, Hackbridge Leather Mills, Carshalton and Wallington, Surrey.*

Chamois and Oil Leather. Coloured Chamois for Portemonnaies, Gloves, Saddle Seats, Surgical Instrument Makers, &c. Buff Hides, bleached and plain.

Handford-Greatrex & Brother; Tanners, Curriers, Japanners and Enamellers of Coach, Saddle, Bridle, and Harness Leather; *Whittimere St., Rushall St., and Lichfield St., Walsall, Staffordshire. (Agent in Paris, E. Arnal, 28, Rue de Trevis.)*

Tanned, curried, japanned, and enamelled Leather for coach, saddle, bridle, and harness purposes. Also japanned and enamelled Shoe Leather.

Holden, Edward Thomas; Currier and Leather Japanner; *Walsall, Staffordshire.*

For saddlers, harness makers, &c.:—Hog and Pig Skins, fair, brown, and yellow colour; Bridle and Rein Hides, Backs, and Butts; Stirrup Hides, Backs, and Butts; Army Hides and Butts; Harness Hides, Backs, and Butts; Bag and Shafted Hides; Hides and Calf Skins in various colours; Japanned Flap and Winker Middlings. For coach builders:—Enamelled Hides, extra size; Enamelled Hides, thin; Japanned Imperial and Bag Hides; Japanned Dash Hides, Backs, and Splits; Japanned Sealskins. Japanned fancy leather:—Thin Backs in all colours; Hides and Middlings in all colours.

Hyde, Archer, & Co.; Coach, Saddle, and Harness Curriers, and Coach Trimming Manufacturers; 9, *Paternoster Buildings, Newgate St., London. Works, 15, Berry St., Great Sutton St., Clerkenwell, London.*

A superior selection of Coach, Saddle, and Harness Leather.

Kelly & Dunn; Parchment and Leather Manufacturers; 51 to 54, *Watling St., and James's St., Dublin.*

Chamois or Wash Leather. Parchment. Whip Strings. Pig, Sheep, and Beef Sausage Casings.

Miller, J. & J., & Co.; Manufacturers and Inventors of Bark Extract; 6, *New Leather Market, London. Works, Upton, Durham, and Millerton, Canada.*

Miller's Extract of Hemlock Bark, for tanning hides and leather, manufactured from the hemlock spruce (*Abies Canadensis*), a large evergreen forest tree; it is in a semi-solid form, and contains all the valuable tanning properties of the bark.

Paul, William; *Oak Tannery, Kirkstall Road, Leeds.*

Levant Hides, Gnus, Kips, and Goats. Memel and Waxed Hide Butts. Waxed Kip Butts. Satin Hides. Cordovan Horse Hides.

Puckridge, Frederick, & Nephew; Goldbeaters' Moulds and Goldbeaters' Skin Manufacturers; 530, 532, and 534, *Kingsland Road, London.*

Goldbeaters' Moulds for beating gold, silver, and other metals into leaves for gilding and silvering purposes. Goldbeaters' Skin. (Exhibited in Class 43.)

Russ, Charles ; Furrier ; 70, New Bond St., London.
Works, 80, Northampton Square, City, London.

Paletôt, Velvet, trimmed with Russian sable muff and tie to match. Paletôt, Satin, trimmed with Russian sable tail, muff and tie to match. Paletôt, Velvet, trimmed with chincilla and muff. Seal Paletôt, Muff, and Tie to match. Hudson's Bay Sable Carriage Wrapper ; all of the finest quality. A selection of choice Skins, &c.

Wilson, Walker, & Co. ; Leather and Glue Manufacturers ;
Sheepscar Leather Works, Leeds.

Coloured Skivers or Split Sheep Leather, for bookbinders, pocket-book makers, hatters, &c. Coloured Roans, for shoe and furniture. Rough, Smooth, and Coloured Calf, for book-binding. Coloured Moroccos, for shoe, furniture, and book-binding. Coloured Russia Hides, for bookbinding and pocket-book makers. Calf Kid, for boot makers. Seal and Goat Skins, for boot and bag manufacturers. Roller Leather, for spinners. Chamois, plain and coloured. Glue.

SIXTH GROUP.

APPARATUS AND PROCESSES USED IN THE MECHANICAL INDUSTRIES.

CLASS 50.—APPARATUS AND PROCESSES OF THE ART OF MINING AND METALLURGY.

Boring apparatus for artesian wells and wells of large diameters. Boring machines and apparatus for breaking down coal and cutting rocks. Apparatus for blasting by electricity.

Models, plans, and views of the mode of working in mines and quarries. Works for obtaining mineral waters. Machines and apparatus used for extracting ore, and for lowering and hoisting miners.

Machines for draining ; pumps.

Ventilating apparatus ; ventilators.

Safety lamps ; lamps for electric light. Apparatus for saving life ; parachutes ; signals.

Apparatus for the mechanical dressing of ores and mineral fuel.

Apparatus for compressing fuel into cakes.

Apparatus for the carbonisation of fuel. Smelting furnaces. Smoke consuming apparatus.

Apparatus used in metal works.

Special apparatus used in forges and foundries, electro-metal-lurgical apparatus.

Apparatus used in metal manufactures of all kinds.

Brakell, Christopher ; Engineer, Inventor, and Manufacturer ;
(FOUNDER AND SOLE PARTNER OF THE NORTH MOOR
FOUNDRY Co.) ; 7, *Westminster Chambers, London.*

Patent Blowers, Exhausters, Air Compressors, Mine Ventilators,
Ship Ventilators, Gas Exhausters, Water and Sewage Pumps ;
Knife Roller Cotton Gins.

Broadbent, Robert, & Son ; Engineers and Machine
Makers, Inventors ; *Phoenix Iron Works, Stalybridge.*

One 7×4 Patent Improved "Blake" Stonebreaker or Ore
Crusher, fitted with exhibitors' patent positive drawback
motion, and reversible cubing jaws.

Brunton & Trier ; Civil Engineers and Inventors ; *Battersea
Foundry, London, and Brighouse, Yorkshire.*

Full sized Stone Dressing Machine in operation on granite
and other stones.

Brunton, William, & Co. ; Safety Fuze Manufacturers ; *Cambrian Safety Fuze Works, Wrexham, North Wales, and Penhellick Safety Fuze Works, Redruth, Cornwall.*

Various descriptions of Safety Fuze (used for conveying the fire to the charge in blasting operations), warranted to be of itself non-explosive and perfectly safe.

Bush & de Soyres ; Iron Founders, Engineers, and Boiler Makers ; *Bristol Iron Foundry, St. Philips, Bristol.*

Hard Rolls of chilled Cast Iron for the manufacture of sheet iron and tin plates.

Cooke, Joseph, & Co. ; Miners' Lamp Manufacturers ; *Midland Davy Lamp Works, 82, Lawley St., Belmont Passage, Birmingham.*

Miners' Lamps ; a Clanny Lamp, the lamp most in use. A Müsler Lamp, becomes extinguished in gas. A Davy Lamp, the favourite. A Spring Lock Davy Lamp. A Stephenson Air Chamber Lamp, constructed so as to prevent coal dust lodging. A Davy Lamp, with swivel staple for pad or lead rivet lock. A Pocket Fireman. An Extinguisher, self-acting on opening the lamp. A Ball Lamp. Swing Lamps, on sticks for Silver Mines. Lamp Brushes, metallic and bristle.

Davies, David ; Engineer and Inventor ; *Viaduct Works, Crumlin, near Newport, South Wales.*

Patent Self-acting Steam Strikers. The Steam Striker is a machine capable of taking the place of ordinary hand strikers in front of the smith's anvil, and is especially constructed for striking blows at any angle inclined to the face of the anvil from the vertical to the horizontal direction. Models of Patent separate Shell, High Pressure Steam Boilers, possessing the following advantages :— 1st. Advantage of dividing boiler into separate shells. 2nd. Facility of increasing the power of boilers by adding extra shells. 3rd. Facility of transport and erection. 4th. Perfect circulation. 5th. Economy of 50 to 75 per cent. in space occupied. 6th. Freedom from deposit and incrustation. 8th. Facility of cleaning shells and flues. 9th. Construction of wrought-iron shells of uniform strength which are tested to 300° persquare inch. 10th. Great economy in fuel.

The Diamond Rock Boring Companies of London ; Manufacturers and Inventors ; 4, *Broad Sanctuary, Westminster, London. Works, London and Manchester.*

Sample Cores obtained by the Diamond Rock Borer. Crowns showing setting of Diamonds used.

Fowler, John, & Co. ; Engineers, Inventors, and Manufacturers ; 71, *Cornhill, London, and Steam Plough Works, Leeds. (Agent in Paris, T. Pilter, 24, Rue Alibert.)*

A 3-horse power Patent Traction Engine. A 6-horse power Patent special large wheeled Traction Engine. A 8-horse power Patent Traction Engine. A Double Cylinder Semi-portable Engine. A Single Cylinder Engine for underground hauling on the tail rope system. A Double Cylinder Engine for underground hauling. A Patent Clip Drum. (*See also Class 51.*)

Fussell, James, Sons, & Co.; Bar Iron, Steel, and Edge Tool Manufacturers, Inventors; *Mells Iron Works, near Frome, Somerset.*

Steel, Fagoted, Scrap, and Charcoal Bar Iron. Scythes. Reap and other Hooks. Hay Knives. Patent adjusting Scythes. Chaff, Engine, and Machine Knives, and sections and other Agricultural Edge Tools. Pickaxes, Sledges, and other Mining and Railway Tools. "Steel Heart" bars or "Ironclad" Steel, patented for various tools and implements.

Hathorn & Co.; Submarine and Mining Engineers, Patentees; 30, *Charing Cross, London.*

The Reliance Air Compressor. The Eclipse Rock Drill.

Humble, Stephen; Engineer; 61, *Uttoxeter New Road, Derby.*

Model of Colliery Headstocks, with King's Patent Safety Detaching Hook to prevent accidents through overwinding, and Patent Grips for catching and holding fast the cage in case the Winding Ropes should break. A set of full sized patent hooks for working loads of 3, 6, and 10 tons.

Le Gros, Mayne, Leaver, & Co.; Engineers and Patentees; 60, *Queen Victoria St., London.*

Improved Patent Ingersoll Rock Drill. A machine supported on tripod, or column or car, for boring or drilling holes in rocks for blasting in mines and quarries, operated by steam or compressed air. Ingersoll Air Compressor, a machine for compressing, driven by steam direct or by band or spur gearing.

Lloyd, Francis Henry; Engineer, Manufacturer and Inventor of Patent Safety Tuyeres; *Wood Green, Wednesbury Works, Darlaston Green, near Wednesbury, Staffordshire.*

Patent Open Spray Tuyeres for Blast Furnaces, fitted with the necessary spray pipes. Tuyere Coils, Fire Clay and Fire-proof composition Tuyere and patent nozzles. Improved Tuyeres for Smiths' hearths, open fires, refineries, and smelting furnaces.

Macnab, James; Engineer, Inventor; 17, *Charles St., Cavendish Square, London.*

Small Mining Plugs or Guns. Detonators and detonating apparatus for prevention of explosions in coal mines; with water cartridges and water seen in transparent boreholes in sections of coal seams and rock. Method of igniting charge and blasting the Rock.

Marsden, H. R.; Engineer and Inventor; *Soho Foundry Meadow Lane, Leeds.* (*Agents in Paris, A. Burton & Son, 62, Rue Charlot.*)

One improved Stone-breaker, with engine combined, 12×7 at the mouth, and fitted with the exhibitor's new patent reversible cubing jaw for making road-metal. The novelty of this invention consists in the movable jaw being made with faces, instead of as heretofore in one piece, so that the said

faces can be reversed, that is, turned upside down when they get worn down, and thus be made to serve twice as long as before, besides which, when they are quite worn out, they are replaceable with a comparatively small casting, whereas under the old style the whole jaw had to be renewed.

Massey, B. & S.; Engineers and Inventors; *Canal Iron Works, Openshaw, Manchester.* (*Agents in Paris, Cope & Co., 13, Rue Perdonnet.*)

Patent Steam Hammers, Steam Stamp; Steam Saw for Steel and Iron; Steam Hammer for Breaking Stone, Quartz, &c. Forging Machine. Samples of Forgings, &c.

The Patent Plumbago Crucible Company; Inventors; Manufacturers of Morgan's Patent and other Crucibles, &c.; *Battersea Works, London, and 7, Boulevard de Denain, Paris.*

Morgan's Patent Crucibles and other fire-resisting goods. Clay Crucibles for Gold working. Portable Assay and Smelting Furnaces, Porous Ware, &c. Plumbago for Lubricating and other purposes.

The Protector Lamp and Lighting Company, Limited; Brass Founders, Finishers, Safety Lamp Makers, and Tin Plate Workers, &c., Inventors; 10, *Marsden Street, Manchester.* *Works, Sindsley Mill, Worsley, near Manchester, Lancashire.*

The Patent Protector and other Miner's Safety Lamps and Lighting Apparatus for Collieries for increased safety to collieries and economy in mining. Model of Patent Gas Making Apparatus. Patent Asbestos Packing and Steam Jointing.

Robey & Co.; Engineers, Inventors; *Lincoln.*

16-horse-power Patent "Robey" Mining Engine. (*See also Class 51.*)

Salmon, Barnes, & Co.; Iron and Brass Founders; *Canal Head Foundry and Engineering Works, Ulverstone, Lancashire.*

Patent Rock Drill to be worked either by compressed air or steam. (*Exhibit also in Class 66.*)

The Savile Street Foundry and Engineering Co., Limited; Manufacturing Engineers and Iron Founders; *Savile St. East, Sheffield.*

Baker's Patent Rotary Pressure Blower. Hall's Patent Multiple Action Stone Breaker. Hall's Patent Farmer's Bone Mill. Baker's Patent Rotary Pump.

Taylor, Henry Enfield; Engineer and Inventor; 15, *New-gate St., and Sandycroft Foundry, Chester.*

Models of "Patent Drum Dresser." A new Ore and Coal Washing Machine. Jigging Machine, an improved apparatus for separating minerals from their gangues with a minimum quantity of water. Chester Pump, an improved pumping engine for forcing water, applicable to mines, collieries, waterworks, &c.

West Cumberland Iron and Steel Co., Limited; Manufacturers of Iron and Steel; *Workington, Cumberland.*

Materials used in the manufacture of Bessemer Iron and Steel. Samples of Pig Iron, Steel Rails, and Steel Plates produced.

Western & Co.; Engineers and Machine Makers; *Belvedere Road, Lambeth, London.*

Saw Machine for cutting old iron and steel. Stone Moulding and Planing Machine for working all kinds of building stones. (*See also Class 59.*)

Wright (Peter) & Sons; Anvil and Vice Manufacturers. The Inventors and Patentees; *Constitution Hill Works, Dudley.*

Patent Anvils of various patterns. These anvils are made with the bick, face, and end, all in one solid piece. Patent Solid Box Vices. Patent Parallel Vice constructed on a stronger principle than any other vice made. Various kinds of Smiths' tools.

CLASS 51.—AGRICULTURAL IMPLEMENTS AND PROCESSES USED IN THE CULTIVATION OF FIELDS AND FORESTS.

Plans of culture, distribution, and management of crops. Apparatus and works for agricultural engineering, draining, irrigation, &c. Plans and models of farm buildings.

Tools, implements, machines, and apparatus used in husbandry, sowing and planting, harvesting, preparation and preservation of crops.

Various agricultural machines worked by horse-power or by steam.

Carts and other rural means of transport.

Locomotives and horse-gins.

Manures, organic or mineral.

Apparatus for the physical and chemical study of soils.

Plans of different systems of replanting, managing, and cultivating forests.

Apparatus used in the cultivation of forests, and in the trades appertaining thereto.

Apparatus used in the manufacture of tobacco.

Aveling & Porter; Engineers, Inventors, and Manufacturers; *Rochester, Kent; 72, Cannon Street, London; and 9, Avenue Montaigne, Paris.*

A pair of 8-horse-power nominal Locomotive Engines for Steam Ploughing, by removing the drums and altering the fore carriages they can be used for thrashing and hauling. An 8-horse-power nominal Agricultural Locomotive, fitted with Aveling's patent wrought-iron side plate brackets; it is

capable of hauling 15 tons over any ordinary road, and suitable for thrashing and driving stationary machinery. A similar Locomotive of 6-horse-power, and a similar one of 4-horse-power. A Steam Reaping Machine to cut 12 feet wide, and an 8-horse-power nominal Locomotive Crane-Engine capable of lifting three tons, and arranged for working the reaping machine. (*See also Class 54.*)

Baker, John ; Corn-dressing Machine Manufacturer. Inventor and Patentee ; *Falcon Works, Wisbech.*

Four Royal Prize Corn Dressing Machines (Nos. 1, 2, 3, and 4) for cleaning and separating all kinds of grain and seed for market ; they are also extensively used for sorting tea, coffee, rice, linseed, &c.

Baker, Thomas ; Inventor and Manufacturer ; *White Wall Iron Works, Compton, near Newbury, Berks.*

Portable Water and Liquid Manure Carts. Double Blast Corn Dressing Machines. A Liquid Manure Cart with a Manure Distributor and Pump for filling attached.

Ball, William, & Son ; Agricultural Implement Manufacturers and Inventors ; *Rothwell, Northamptonshire.*

Wagon, Cart, Double, Single, and three-furrow Ploughs, Scarifiers, Horse Hoes, Harrows, &c.

Bamlett, Adam Carlisle ; Agricultural Engineer, Manufacturer, and Inventor ; *Thirsk, Yorkshire.*

Mowing Machine. A Combined Mowing and Reaping Machine. A Self-raking Reaping Machine.

Barford & Perkins ; Engineers and Inventors ; *Queen St. Iron Works, Peterborough. (Agent in Paris, Th. Piller, 24, Rue Alibert.)*

A 3-furrow steam Plough and Digger. Steam cultivating Windlass, with 1,600 yards steel rope. Patent self-moving anchor for steam cultivation. Corn grinding mills of various sizes. Flour dresser for attaching to No. 7 mill. Steaming apparatus No. 4. Improved cake mill, extra wide, No. 4. Water-ballast Field Roller, size 20 inches in diameter by 6½ feet wide. Water-ballast Asphalte Roller, 27 by 27 inches. Water-ballast Garden Roller, fitted with handle for manual power, and shafts for pony, 30 inches diameter by 30 inches wide.

Barrows & Stewart ; Engineers and Machinists ; *Cherwell Engine Works, Banbury, Oxfordshire. (Agent in Paris, Th. Piller, 24, Rue Alibert.)*

One 8-horse-power portable Steam Engine on wheels, for driving agricultural machinery, &c. ; with fire-box for burning wood. Shell of boiler continuous from end to end. Crank shaft bent out of a solid bar of Lowmoor iron.

Boby, Robert ; Mechanical Engineer and Inventor ; *Saint Andrew's Works, Bury St. Edmunds, Suffolk.*

Boby's Patent Large and Small Sized Corn Dressing Machines. No. 1, Boby's Patent Corn Screen. No. 2, Boby's

Patent Corn Screen. No. 5, Bobby's Patent Corn Screen, with blower. A Malt Screen. A Self-acting Screen to hang or stand. Hand Barley Haveler. Models of Hay-maker, Horse Rake, and Grain Cleaning Apparatus.

Brown, J. B., & Co.; Galvanized Wire Netting Manufacturers; 90, Cannon St., London. Works, 240, New Kent Road, London.

Galvanized Iron Wire Netting, from half-inch to six-inch meshes, for aviaries, pheasantries, church windows, protecting crops and young trees from rabbits and hares, for enclosing poultry and sheep, for training plants, and for fencing and other purposes; made all widths up to 4 feet for the smaller meshes, and up to 6 feet wide for the larger meshes.

Burgess & Key; Agricultural Engineers and Inventors; Holborn Viaduct, London. Works, Brentwood, Essex.

A new patent Regulating Reaper; makes and delivers sheaves of any and equal size, notwithstanding any inequality in the crop. A patent Mowing and Reaping Machine. The knife (which works in a line with the main axle) takes out behind, instead of being drawn through the fingers in the usual way. A new Mower; has all the gearing placed in one bracket on the outer side of the main wheel. A new Cutter-bar for reapers and mowers, in which the cutting jaws of the fingers are as readily removable as the knife.

Burnard, Lack, & Alger; Manufacturers of Chemical Manures and Sulphuric Acid, &c., Inventors of the Patent "Concentrated" Manure; Sutton Road, and Cattedown, Plymouth.

Chemical manures of various kinds, including the "concentrated," a manure rich in phosphoric acid, soluble in water, and containing azotised matter yielding Ammonia. The Ammonia-fixed soluble Guano. The Ammonia is "fixed" during the process of manufacture, and thus rendered non-volatile, and its phosphates are in a perfectly soluble condition. "The dissolved Bone Manure and Superphosphate of Lime." All these manures are in a dry and friable condition. "Sulphuric Acid." Samples of pure Sulphuric Acid made from Sulphur, also of Sulphuric Acid made from Pyrites, and various samples of raw Phosphates from England, France, Spain, United States, Canada, Curaçoa, Norway, and the various islands in the Pacific. Nitrate of Soda, Phosphatic and other Guanos, Sulphate of Ammonia and other raw materials used in the manufacture of Chemical Manures.

Carson & Toone; Agricultural and Dairy Implement Makers and Inventors; Wiltshire Foundry, Warminster, Wiltshire.

Three prize Horse Hoes, easily convertible to Grubbers, worked by one horse each between rows of turnips, beans, and other growing crops, clearing out all weeds, and leaving them on the surface. Prize Cheese Presses, of four different forms and capacities, suitable for dairies at home and abroad, adapted for pressing the cheeses through all stages of their manufacture;

portable, strong, and thoroughly efficient. A selection of Cheese Vats, Cheddar principle, which are opened by a key to relieve the Cheese. Patent Automatic Creeps for passing Lambs from the Sheep-fold; they prevent the egress of the Ewes, but admit Lambs of any size without injury.

Clayton & Shuttleworth; Manufacturing Engineers and Inventors; *Stamp End Works, Lincoln, and 78, Lombard St., London.*

Portable Steam Engines for burning coal, wood, or straw. Traction Engines. Portable Fixture and Stationary Engines. Thrashing Machines. Grinding Mills, &c.

Coleman & Morton; Agricultural Engineers, Manufacturers, and Inventors; *London Road Iron Works, Chelmsford, Essex. (Agent in Paris, Th. Pilter, 24, Rue Alibert.)*

A Prize Cultivator, No. 15, for two light horses. A Prize Cultivator, No. 5b, for light hand. A Prize Cultivator, No. 5, for mixed soils. A Prize Cultivator, No. 6, for general purposes. A Prize Cultivator, No. 7, with side levers. A Plough Cultivator for both scarifying and ploughing. A Hop Cultivator for cultivating hop grounds. A patent adjustable Rotary Corn Screen and Separator. A Street Watering Cart with Seat, Spreaders, &c. A Water and Liquid Manure Cart complete. A Tumbler or Sanitary Cart. A Hop-syringing Machine for washing the hop plant. A Hand-water Cart fitted with Garden Engine. A Horse Pitchfork or Elevator for unloading and stacking hay. Two sets of Improved Whippetrees. Samples of shares of various patterns. A model of patent Double Circulating Boiler.

Cook, Edward, & Co.; Bone Grinders and Manufacturers of Chemical Manures; *East London Bone Mills and Chemical Manure Works, Bow, London.*

Artificial Manures, especially those made from bones. Samples of ground bones, of bone size, of hollow bones for use in the manufacture of handles, buttons, &c. (Exhibit also in Class 47.)

Corbett & Peele; Agricultural Engineers; *Perseverance Iron Works, Shrewsbury.*

Agricultural Implements: Nos. 1 to 5, Machinery for dressing and screening all kinds of grains, seeds, and grasses. Nos. 6 to 8, Machines for preparing food for animals. Nos. 9 to 12, Implements for the cultivation of land. Nos. 13 and 14, Drills for sowing agricultural seeds. Nos. 15 and 16, Articles used in the ingathering of crops. No. 17, Article used in the manufacture of cheese.

Coults, James; Agricultural Engineer and Inventor; *Perseverance Iron Works, Spittlegate, Grantham.*

Corn and Seed Drills. Broad-cast Corn-sowing Machines. Artificial Manure Drills or Distributors. Corn and Artificial Manure Drills.

Davey, Paxman, & Co. ; Engineers, Founders, and Inventors ;
*Standard Iron Works, Colchester, and at 139, Queen
Victoria Street, London.*

An 8-horse-power portable Engine and Boiler, with exhibitor's patent Water Heater and other improvements. A 3-horse-power Vertical Engine and Boiler combined, the boiler of exhibitor's type, which has large heating surface, and secures by a special method the perfect circulation of water. A 4-horse-power Vertical Engine, "Standard" pattern. A 4-horse-power Horizontal Engine. Patent Steam Corn Drying Machines. Patent Water-heaters, for raising the temperature of feed-water to steam boilers. Patent Farmyard Manure Spreader. Improved Steam Thrashing and Finishing Machines, with self-acting safety feed apparatus.

Denton, Henry ; Inventor and Manufacturer ; *St. Peter's
Iron Works, St. Mark Street, Wolverhampton.
(Agents in Paris, Waite, Burnell, Huggins & Co.,
9, Rue Alibert.)*

Chain Harrow, with steel tines, for improving grass lands and collecting weeds, &c. Horse-power, for transmitting power to any kind of machinery, made entirely of iron, very strong and simple. Vices for Reaping Machine Knives. Wrought Iron Cylinders for Land Rollers.

Farmer, Thomas, & Co. ; Chemical Manufacturers ; *Dun-
ster House, Mark Lane, London ; Works, Hall's
Wharf, Victoria Docks, London.*

Chemical Guano A, a fertilizer for sugar beet, potatoes, flax, hops, mangold wurzels, cotton, coffee, &c. Chemical Guano B, a fertilizer for all cereals, grass, tea, indigo, rice, tobacco, &c. Chemical Guano C, a substitute for Peruvian Guano as formerly imported, and a fertilizer for sugar cane. Pure Dissolved Bones, a fertilizer for vines, turnips, pasture, &c. Bone Manure, a fertilizer for turnips pasture, &c. Superphosphate of Lime, containing 12, 14, 16, and 19 to 20 per cent. of phosphoric acid soluble. Collection of special fertilizers for various foreign crops and of raw materials used in the manufacture of the above articles.

Fowler, John, & Co. ; Engineers, Inventors, and Manu-
facturers ; *Steam Plough Works, Leeds, and 71,
Cornhill, London.*

A 16-horse-power Patent Single Cylinder Traction Engine, fitted for steam ploughing on the double engine system. A 6-horse-power Patent Single Cylinder Traction Engine, fitted for steam ploughing on the double engine system. Patent Balance Plough, for steam ploughing with four adjustable furrows. A patent balance Plough with double swing middle with three furrows. A Patent Turning Cultivator, 9 and 11 tynes. A Patent Turning Harrow. (See also Class 50.)

Garrett (Richard) & Sons ; Agricultural Engineers and
Boiler Makers, Manufacturers, and Inventors ; *Leiston
Works, Suffolk. (Agent in Paris, Th. Piltet, 24,
Rue Alibert.)*

Portable and Traction Engines constructed to burn straw and other vegetable refuse as well as coal and wood. Threshing

Dressing, and Straw Chopping Machines. Combined Straw-elevating and Stacking Machine for hay and corn. Corn and Seed Drills. Manure Distributors and Horse Hoes. (See also Class 54.)

Gibbs (James) & Company; Manufacturers of Sulphuric Acid, Manures and Feeding Cake; Inventors; 16, *Mark Lane, London, King St. Hall, Bristol*; 42, *George Street, Plymouth. Works, Victoria Docks, and Burdett Wharf, London, and Cattedown, Plymouth.*

1.—Sulphuric Acid. (a.) Sources of Acid, Brimstone, Pyrites. Nitrate of Soda. (b.) Rectified Acid, S.G. 1·845. (c.) Chamber Acid, S.G. 1·600. 2.—Chemical Products as applied to Agriculture (Fertilizers). (a.) Sources of Nitrogen. (b.) Sources of Phosphoric Acid. (c.) Sources of other fertilizing constituents. (d.) Perfected combinations of above constituents; Gibbs' Ammonia-fixed Guano, Dissolved Bones, Superphosphate of Lime, special manures for different crops in all climates. 3.—Alimentary products as applied to Agriculture (Food for Cattle). Gibbs' Pure Feeding Cake for stock of all kinds, Milch Cows, &c., &c.

Gilbert, William; Drill Manufacturer; *Shippon, Abingdon, Berkshire.*

Corn and Seed Drills, 12-row and 7-row. Hand Drill, 2-row.

Goulding, W. & H. M., Limited; Chemical Manure Manufacturers; *Dublin and Cork.*

Bone Manure. Special Manure. Superphosphate of Lime. Vine Manure. Corn Manure; and materials used in their manufacture.

Hall, A. W., & Co.; Manufacturers and Inventors of Chemical Manures; *Redbridge Chemical Works, 17, Above Bar, Southampton.*

Chemicals: Sulphate of Ammonia, Alum, Aluminous Cake. Tar Products: Naptha, Light Oil, Grease Oil, Anthracine, Pitch. Chemical Manures: "Guano Anglais" (made specially for and sold in France), Superphosphate of Lime, Dissolved Bones, Bone superphosphate, special Manures for Corn, Potato, Mangold, Turnip, Grass, Bean, Pea, Tares, and other crops. Wheat Manure. Vine Manure. Ground Bones, half-inch, quarter-inch, and dust. Nitro concentrated Manure.

Harrison, McGregor, & Co.; Agricultural Engineers and Machine Manufacturers, Inventors; *Albion Foundry, Leigh, near Manchester. (Agents in Paris, Waite, Burnell, Huggins, & Co., 10, Rue Alibert.)*

A new patent "Albion" two-horse self-raking side-delivery Reaping Machine fitted with controllable Rakes; an improved "Albion" two-horse combined Mower and Reaper, manual delivery; an improved "Albion" two-horse Mowing Machine, all perfectly balanced, light in draught, and simple and strong in construction.

Hill & Smith; Iron and Wire Fencing Manufacturers, Inventors; *Brierley Hill Iron Works, Brierley Hill, near Dudley, Staffordshire; and 118, Queen Victoria St., London.*

One pair of ornamental Wrought-iron Entrance Gates, and railings to match. A length of patent continuous Iron Fencing. A length of Strained Wire Fencing. A length of new Patent Tubular Fencing, the horizontal bars being of tubes instead of solid iron. Iron Hurdles made with solid bars (round and flat), and also with patent tubes. Entrance Field and Wicket Gates. Samples of Game-proof Wire Netting. Ornamental Iron Work.

Hindley, Edmund Samuel; Engineer, Boiler Maker, &c., Inventor; *Bourton, Dorset.*

A 4-horse-power Vertical Steam Engine and Boiler combined, on water-heater foundation and mounted on four travelling wheels, with horse shafts. A 1½-horse-power Vertical Steam Engine and Boiler, combined on water heater foundation and mounted on three travelling wheels, with handle. A 2-horse-power Vertical Steam Engine, with feed pump, equilibrium quick-speed governor, turned fly-wheel, and pulley. (*See also Class 54.*)

Holmes & Sons; Agricultural Engineers and Drill Makers, Inventors; *Prospect Place Works, Norwich, Norfolk.* (*Agents in Paris, Waite, Burnell, Huggins, & Co., 10, Rue Alibert.*)

Portable Steam Engine for driving. Thrashing and Finishing Machine. Clover Seed Sheller, with Dressing Apparatus, Corn and Seed Drill with fore steerage, Root Drill, Manure Drill, and Manure Distributor. A Patent Turnip Thinner for setting out the plants at equal distances.

Hornsby, Richard, & Sons; Agricultural Engineers and Implement Makers, Inventors; *Spittlegate Iron Works, Grantham, Lincolnshire.* (*Agent in Paris,* .)

A Portable Steam Engine of 8 nominal horse power, constructed on Exhibitors' patent principle of placing the cylinder inside the steam chamber and in direct contact with the steam in the boiler. A patent portable combined Thrashing, Shaking, and Finishing Dressing Machine. The cranks are made in separate parts and case hardened. The Thrashing Drum is reversible. A new patent "Spring Balance" Self-raking Reaper, with patent mechanical and manual controllable Rakes. A one-horse patent Spring Balance Self-Raking Reaper. A two-horse Paragon combined Reaper and Mower. A one-horse and a two-horse Grass Mower. One Single Furrow and one Three Furrow Plough. A Rotary Corn Screen. A Corn Dressing Machine. A Washing, Wringing, and Mangling Machine.

Howard, James & Frederick; Agricultural Implement Manufacturers and Inventors; *Britannia Iron Works, Bedford.* (*Agent in Paris, Th. Pilter, 24, Rue Alibert.*)

Steam Ploughing Engines for the combined purposes of steam ploughing, threshing, grinding, hauling, and other farm work. Steam Ploughs for turning over the land at various depths. Steam Cultivators for breaking or smashing up the land at various depths. Steam Scarifiers for stirring the land to a moderate depth. Steam Harrows for harrowing the land after it has been ploughed or broken up. Single Ploughs for horses or oxen to turn over the land one furrow at a time at various depths. Double Ploughs for horses or oxen to turn over the land two furrows at a time at various depths. Triple Ploughs for horses or oxen to turn over the land three furrows at a time at various depths. Quadruple Ploughs for horses or oxen to turn over the land four furrows at a time at various depths. Ridging Ploughs for horses or oxen to mould up or form ridges for beet-root, turnips, and potatoes. Potato Ploughs for horses or oxen to raise up potatoes. Vine Ploughs for horses or oxen to turn up the land between the rows of vines. Harrows for harrowing the land with horses or oxen after it has been ploughed or broken up. Horse Rakes for collecting hay, corn, or stubble. Haymaking Machines for making hay by tossing, turning over, and tedding cut grass with horses or oxen. Mowing Machines for cutting grass, clover, and other green crops. Reaping Machines for cutting wheat, barley, oats, and rye. Reaping Machines with Sheaf binders. Models of self-moving anchors for Steam Ploughing, self-lifting Steam Cultivators, Triple Plough, Harrows, Self-acting Horse Rake, Mowing and Reaping Machines.

Humphries, Edward; Manufacturing Agricultural Engineer and Inventor; *Atlas Iron Works, Pershore, Worcestershire.*

One Combined Double-blast Finishing Thrashing Machine. One 6-horse-power Portable Steam Engine. One 3-horse-power Vertical Steam Engine.

Hunt & Tawell; Agricultural Implement Manufacturers; *Atlas Works, Earl's Colne, near Halstead, Essex.*

A One-horse Gear. A Two-horse Gear. A Hand-power Thrasher. A "Gem" Root Pulper. A "Gem" Root Grater. A Bean and Oat Mill. An Oilcake Breaker. Four Hand-power Chaff Cutters.

Jeffery & Blackstone (LATE ASHBY AND JEFFERY); Agricultural Engineers, Inventors; *Stamford, Lincolnshire.*

One 4-horse-power Vertical Steam Engine and Boiler. One No. 2 patent Haymaker. One new Chaff Cutter for hand-power. One new Horse Rake.

Kearsley, George; Agricultural Implement Manufacturer and Inventor; *The British Iron and Implement Works, North St., Ripon, Yorkshire.*

A Grass Mower and Combined Machine, with change of speed. A Self-delivery Corn Reaper. A Manual Delivery one-horse Reaper.

Kell, Meats, & Co.; Agricultural Engineers and Implement Manufacturers, Patentees; *Barton Foundry, Gloucester.*

One 11 Row Patent British Economical Corn Drill, worked easily by two horses and one man; the seed barrel is stopped and the feet are raised from the ground by one and the same lever. It will drill any sort of grain or seed. One five-row Corn Drill for small landholders, to drill all kinds of grain or seed.

Le Butt, Josiah; Agricultural Engineer, Part Inventor; *Corn, Screen, and Haymaker Works, Bury St. Edmunds, Suffolk.*

Self-cleaning Corn Screens (formerly Boby's patent); the object of these is to effectually remove all thin refuse and broken grains which are found in wheat, barley, malt, and oats, and can be adapted for coffee and rice. Double-action Haymaking Machine, noted for its extreme simplicity, lightness of draught, strength, and efficiency. The travelling wheels are formed of wood, and the machine cannot be wrongly worked. Hand Garden Seed Drill, for sowing every kind of garden and other seed. Pheasant and Poultry Feeders; the food is protected from vermin and the weather by a glass cover, which closes automatically when the birds are not feeding. Everlasting Malt and Oat Screen.

Loader, Caleb; Agricultural Machinist; (Patentee) Manager of Loader's Patent Harvesting Machine Co., Registered; *East Pennard, Shepton Mallet, Somerset.*

One new Harvesting Apparatus, with an improved Trailing Waggon, complete for gathering and loading hay or corn on to carts or waggons in the open field without manual labour, to economize time. A Model Locomotive Engine deriving its power from natural elements. Manufactured by Ruston, Proctor, & Co., Lincoln.

McLaren, John & Henry; Civil and Mechanical Engineers, Inventors and Manufacturers; *Midland Engine Works, Leeds, West Riding of Yorkshire.*

One 6-horse-power Agricultural Locomotive Engine, with patent expanding arrangement and separate framing for the engine, so that the latter is quite rigid, and has all the force communicated direct to the crank shaft, independently of the boiler, which is free to expand and contract to any extent due to the heat thereof. Plans of Farm Buildings, suitable for farms of various sizes.

Maldon Iron Works Company, Limited; Maldon, Essex.

Small Vertical Steam Engines, Horse and Pony Gears, Small Thrashing Machines, Corn Dressing Machines, Chaff Cutters, Root Pulpers and Cutters, Corn and Seed Crushers, Oat, Maize, and Bean Kibblers. Oilcake Mills.

Marshall, Sons, & Co., Limited; Manufacturing Engineers, Millwrights, and Machinists, Inventors and Patentees of numerous improvements; Britannia Iron Works, Gainsborough, Lincolnshire.

Agricultural self-moving and Traction Engines, Portable Engines for agricultural and forest use. Patent Straw-burning Portable Engine. Portable Irrigating Engine. Stationary Horizontal Engine and combined Locomotive Multi-tubular Boiler. Stationary Vertical Engine and Boiler combined. Horizontal fixed Engine with separate Boiler. Horizontal Condensing Engine. Corn Grinding Mill. Circular Saw Benches and Tea-rolling Machinery. Combined Finishing, Thrashing, and Dressing Machines. Combined Straw Elevator and Stacking Machine.

Morris & Griffin; Chemical Manure Manufacturers and Inventors; Ceres Works, Wolverhampton.

Samples of Manures for all kinds of root and cereal crops, Hop Plant, Pasture Land, &c. Collection of raw materials used in the manufacture of Manures.

Neale, Melville Thomson; Inventor and Manufacturer; 22, Buckingham St., Strand, London.

"Neale's patent Automatic String-knotting Sheaf-binder." (Combined Reaper and Binder) for cutting and automatically binding with string, and by means of an absolute knot, corn or other cereals into sheaves or bundles of any length or size, at a total cost of sixpence per acre.

Nicholson, William Newzam, & Son; Agricultural Engineers and Inventors; Trent Iron Works, Newark-on-Trent. (Agents in Paris, Waite, Burnell, Huggins, & Co., 10, Rue Alibert.)

Horse Rakes and Hay Machines. Oil Cake Breakers and Food Preparing Machines. Horse Gears. New patent Grist Mills. Vertical Steam Engines and Boilers, fixed and portable.

Nitro-Phosphate and Odams Chemical Manure Company, Limited; 109, Fenchurch St., London. Works, Hudson's Wharf, Victoria Docks, London.

Manures, and Materials used in the manufacture of Manures.

Nottingham Malleable Iron Company, Limited, The; Kirke White St., Nottingham.

Drum Beaters for thrashing machines of malleable iron and of cast steel. Drum Beaters for thrashing machines of combined malleable iron and steel. Combined Cast Steel and Malleable Iron Castings. Collection of Steam Fittings. Hart's patent reliable injectors. The "Odling" patent safety Miners' Lamp.

Ohlendorff & Co.; Merchants and Manufacturers of the dissolved Peruvian Government Guano; 15, *Leadenhall St., London. Works at London, Hamburg, Antwerp, and Emmerich on Rhine.*

Dissolved Peruvian Government Guano, i.e., raw Peruvian Government Guano treated with sulphuric acid, a fine powdery manure sold with guaranteed analysis. Raw Materials, Models, Plans, and Photographs, showing the process of manufacture.

Packard, Edward, & Co.; Manufacturers of Chemical Manures and Inventors; 6, *Princes St., Ipswich, Suffolk. Works—Bramford, Ipswich, and Cambridge in England; Londonderry, Ireland; Villefranche, Aveyron, France; Wetzlar, Nassau, Germany; Iron Pyrites Mines at Kvaal in Norway.*

Superphosphate of Lime of various qualities, containing from 10 to 40 per cent. of soluble phosphoric acid, manufactured: A, in the ordinary way by dissolving powdered phosphate in sulphuric acid; B, under exhibitor's newly invented process, by which low quality phosphate can be manufactured into superphosphates of the highest grade. Specimens of Phosphates of Lime obtained from various geological formations. Specimens of Potash Manures. Specimens of sources of Ammonia generally in use by manufacturers of manures and farmers. Materials used for the manufacture of sulphuric acid, for making artificial manures.

Picksley, Sims, & Co., Limited; Agricultural Engineers and Inventors; *Bedford Foundry, Leigh, Lancashire.*

Six Chaff Cutters of different sizes and fitted with various improvements. An Oil-cake Mill, breaks six sizes of Cake. Two Mills for bruising or grinding grain and pulse. Two Mills with steel rollers. A Grist Mill for power only. A Root Slicer. A Root Pulper. A new Mower and Reaper, "Novelty." The same with new improved Back Self-delivery when used as a Reaper. Horse Rake.

Purser, Edward, & Co.; Manufacturing Chemists; 116, *Fenchurch St., London. Works, Plough Wharf, Cubitt Town, Poplar, near London.*

Raw Material employed in the manufacture of Chemical Manures. Imported Manures. Manufactured Manures.

Rainforth, Wm., & Sons; Agricultural Engineers and Inventors; *Britannia Iron Works, Brayford Head, Lincoln.*

A 9-row Corn Drill. An adjustable Corn Screen fitted with springs and brush. An adjustable Corn Screen fitted with blower and metallic cleaner in place of brush. An adjustable Corn Screen fitted with blower diamond mesh. A Corn Winnowing and Dressing Machine. A set R 4 zig-zag Iron Harrows. A patent Parallel Lifting Harrow, 6 feet wide. A three-horse Iron Drag. A Skerry or Scuffler. A Grubber.

Ransomes, Sims, & Head ; Manufacturing Agricultural Engineers and Inventors ; *Orwell Works, Ipswich. and 9, Gracechurch Street, London.*

Portable Engines for burning coal and wood. Head and Schemioth's Patent Engines for burning straw, cotton, and maize stalks, megass, and other vegetable refuse. Fixed Steam Engines, with single or double cylinders, fitted with patent automatic governor expansion gear for regulating the speed of the engine. Improved Traction Engines, of 6 and 8 horse-power, for running along the common roads at a speed of $1\frac{1}{2}$ and 3 miles an hour. Steam Threshing Machines for wheat, barley, oats, rice, and other cereals. Steam Threshing Machines, with apparatus for chopping and bruising the straw for fodder, the only machines thoroughly adapted to the requirements of hot countries. Corn mills, with one, two, or more pair of stones, for grinding all kinds of grain, and arranged for driving by stationary or portable engines. Single furrow ploughs, also 2, 3, and 4 furrow ploughs suitable for all kinds of work. Horse Rakes and Haymakers of most improved construction.

Reid, Benjamin, & Co. ; Agricultural Implement Makers, Inventors ; *Bon-Accord Works, Aberdeen.*

A Patent "Disc" Corn Drill, a Patent "Disc" Broad-cast Grain Sower, a Patent Silent Winnowing Machine, a Sack-weighing Machine, a Threshing Machine, a Hand and Foot Threshing Machine, a small Ridging Plough, Models of Wire-straining Pillars and Wire Bridge. New Drain Rods.

Riches & Watts ; Manufacturing and General Machinists. Inventors ; *Duke's Palace Iron Works, Norwich Norfolk.*

A Vertical Combined Steam Engine and Boiler of $2\frac{1}{2}$ (nominal) horse-power, complete with feed-water heater. A "Felton's" Grinding Mill. A Universal Mill, for grinding all kinds of grain for farmers' purposes, which it will do twice as fast and with half the power of ordinary millstones, No. 2 size. A "Eureka" Grinding Mill on a similar principle to the foregoing, but differing in the adjustment of the working parts, No. 7 size. A "Meal Sifter" for attaching to the Grinding Mills above named, will effectually separate the ground meal into fine and coarse and bran, No. 2 size. A Patent Self-acting Revolving Hay and Gathering Rake, a great labour-saving machine for the hay and harvest fields ; has a double set of teeth, perfectly balancing each other, so that they do not fall with a clash as other rakes do. It has many advantages over the ordinary rake. A 3-horse-power Steam Engine without a boiler.

Richmond & Chandler ; Agricultural Implement Manufacturers and Inventors ; *Salford, Manchester.*

Chaff Cutting Machines, Corn Crushing Machines, Horse Gear Works, Steaming Apparatus, Bread Kneading Machine, Turnip Pulper.

Robey & Co.; Engineers, Inventors; *Lincoln.*

4, 6, and 8 horse-power Portable Steam Engines, 16-horse-power Patent "Robey" Fixed Engine, with Locomotive Boiler, 3-horse-power Vertical Steam Engine and Boiler, 8-horse-power Traction Engine. Corn Mill, with two pairs of 3' 6" millstones. Flour Dresser, No. 1 Saw Bench, with 42" saw. Thrashing and Finishing Machine with 4' 6" drum. (*See also Class 50.*)

Ruston, Proctor, & Co.; Manufacturing Engineers and Inventors; *Sheaf Iron Works, Lincoln.*

Portable Engines of 8 and 3 horse-power with one cylinder, and 12-horse-power with 2 cylinders; 3-horse-power combined Vertical Engine and Boiler; 10-horse-power Horizontal Engine, all with expansion gear, feed-water heaters, patent stays, &c. Traction, Engine, of 8-horse-power with self-acting equilibrium valve, improved compensating gear, high speed governors. Finishing Thrashing Machines, of 3, 6, and 8-horse-power, with patent self-feeder and other important improvements. Loader's Patent Harvesting Machine (new invention). Straw Elevator and Stacking Machine. Corn Grinding Mill, with 2 pairs 3 feet 6 inch diameter stones, self contained in iron frame. Wood sawing machinery.

Samuelson & Co.; Agricultural Engineers and Machinists, Inventors; *Britannia Works, Banbury, Oxfordshire, England.*

Reaping and Mowing Machinery.

Smith, William, & Son; Agricultural Engineer and Inventor; *Royal Iron Works, Kettering, Northamptonshire.*

One new Patent Horse Hoe, with new lever and hoes to take on and off, and new axle. A Horse Hoe of a new design. A Patent Rotary Turnip Thinner for two rows. A new Grindstone, in iron frame, to work with treadle and handle. A similar Grindstone on wood frame. A new Patent Sugar Chopper to work by foot. A new patent machine for cleaning currants.

Smyth, James, & Sons; Drill Manufacturers and Inventors; *Peasenhall, Suffolk, and 160, Rue Lafayette, Paris.*

Corn, Seed, and Manure Drills. Manure Distributor. Kaemerer's Patent Broad-cast Sowing Machine.

Turner, E. R. & F.; Manufacturing Engineers and Inventors; *St. Peter's Iron Works, Ipswich, Suffolk.*

Portable Steam Engine with patent automatic variable expansion. Fixed Steam Engines (Horizontal). Vertical Steam Engines. Thrashing Machines. Corn Grinding Mills with stones. Corn and Seed Crushers. Kibbling Mills for beans and maize.

Woolnough, W. & C., & Co. ; Agricultural Engineers and Inventors ; *Ceres Iron Works, Kingston-on-Thames, near London.*

Corn and Seed Drills, General Purpose Drill, Seed and Manure Drill, Manure Distributors, Horse Hoes, Corn Grinding Mill fitted with 20-inch French Burr Stones.

CLASS 52.—APPARATUS AND PROCESSES USED IN AGRICULTURAL WORKS, AND IN WORKS FOR THE PREPARATION OF FOOD.

Apparatus used in agricultural works : manufacture of artificial manures ; of drain pipes ; cheese, factories, dairies ; apparatus used in preparing flour, fecula, starches, oils ; apparatus used in breweries, distilleries, sugar manufactories and refineries ; workshops for the dressing of textile materials ; silk-worm nurseries, &c.

Apparatus used in the preparation of alimentary products, mechanical appliances for kneading and baking ; apparatus used in making pastry and confectionery.

Apparatus for the manufacture of vermicelli, macaroni, &c. Machines for making sea biscuits. Chocolate machines. Apparatus for roasting coffee.

Apparatus for making ices and cool drinks ; manufacture and preservation of ice.

Barnett, Son, & Foster ; Engineers and Inventors of Mineral Water Machinery ; 20 to 23, *Forston St., Hoxton, London.*

Different sized Soda Water Machines fitted with glass plungers. Marble Fountains for dispensing iced fruit drinks. Copper Cylinders. The "London-made" Syphon Bottle. Patent Self-tightening Capsule Stopper for malt liquors. Codd's Patent Soda Water Bottle and Filling Machine.

Baxter, William Henry ; Brewer ; Manufacturer and Inventor ; 2, *Old Swan Lane, City, London.*

Automatic and Self-registering Corn Weighing Machine, capacity one ton per hour. A similar machine encased, as designed for the Italian Government to assess the Grist Tax. A similar machine encased and fixed over suppositious Steel Rollers, illustrating Mr. Baxter's proposed system for the assessment of the tax on beer, which consists in automatically ascertaining the weight of grain used in brewing at the time of crushing and imposing a tax upon such weight. Automatic and self-registering Corn Measuring Machine, capacity 20 bushels per hour. A similar machine encased and fixed over suppositious Steel Rollers, illustrating the Bavarian system of assessing the tax on Beer, such tax being imposed upon the volume of the malt used in brewing. This machine is so adjusted that the brewer cannot defraud the Government,

even if he substitute other grain for malted barley. Model of Automatic and Self-registering Corn Weighing Machine, capacity 30 tons per hour.

Bentall, Edward Hammond, & Co.; Agricultural Machine Manufacturers and Inventors; *Heybridge Works, Maldon, Essex.*

Cattle Food Preparing Machines, consisting of Chaff Cutters, Pulpers, Turnip Cutters, Oil Cake Mills, Corn Crushers, and Kibblers.

Bradford, Thomas, & Co.; Engineers, Inventors, and Manufacturers; *Crescent Iron Works, Manchester, and 140 to 143, High Holborn, London.*

Patent Bone Slicing Mill, for making bone manure. Patent Bone Grinding Mill, for making bone meal for feeding poultry, ostriches, and dogs. Patent Churn for making butter. (See also Class 54.)

Buchanan, G., & Co.; Engineers, Inventors, and Constructors; 25, *Bucklersbury, London.*

A 12-horse-power Steam Engine and Cane Mill combined on the same iron base plate. (Buchanan's Patent), Size A. A similar engine of 3-horse-power, Size X., and another Size XX. One Cane Mill for Cattle Power. One Wetzel Evaporator.

Burney & Co.; Iron Tank Manufacturers; *Mill Wall Docks, London.*

Iron Tanks for ships' use, for water, biscuit, oil, &c., and for shipment of malt and various goods. Cisterns for Water or Oil for manufacturing purposes and domestic use. Cisterns and Cattle Drinking Troughs, with safe edges for agricultural purposes. General Wrought-iron Work, over one-sixteenth of an inch. Iron Water-cart Bodies, Corn Bins, Filters, with the working parts removable for cleansing.

Carter, J. Harrison; Patentee and Manufacturer of Grinding Machinery; 82, *Mark Lane, London.*

Carter's Patent Disintegrator, sizes No. 2 and 4. A Middlings Roller Crushing Mill. A Middlings Purifier (Carl Haggemacher's Patent). A Corundum Millstone Dressing Machine and Millstone.

Codd, H., & Co.; Engineers and Manufacturers; 58, *King William Street, City, London.*

Soda Water Bottles closed by means of an internal glass ball, which forms an air-tight seating against an elastic ring fixed in a groove in the mouth of the bottle. Machine adapted for filling these bottles with aerated water, so arranged that the bottle when full can be inclined so as to allow the ball to fall to its seating before the bottle is removed from the nipple. (Hiram Codd, Inventor and Patentee.)

Colman, J. & J.; Inventors. Mustard, Starch, Washing Blue, and Corn Flour Manufacturers; 108, *Cannon St., London; Factory, Carrow Works, Norwich.*

Machinery in motion, showing the whole process of the manufacture of English mustard. (Exhibit also in Classes 47, 69, and 74.)

Coppard, John, & Co. ; Inventors, Patentees, and Manufacturers ; *Albion Works, Devonshire St., Soho, Birmingham.*

A Patent Mincing and Sausage Machines made entirely of iron with movable knives coated with tin. Improved Patent India-Rubber Door Springs. Liqueur Taps. Self-acting Cask Stands. Fruit and Potato Parers and Slicers. Carpet Brooms. Clothes Wringer and Mangle. Nail Drawer and Hammer combined, and a Machine for cutting Tobacco.

Corcoran, Witt, & Co. ; Builders of French Millstones, General Mill Furnishers, Wire Weavers and Workers, and Inventors ; 28, *Mark Lane, London.*

Machines worked by hand, steam, or bullocks for shelling and hulling rice, for separating and sifting rice, and for whitening and polishing rice. Paddy Pounding Machines or Mortars. Woven Wire Cloth and perforated iron and zinc plates for rice mills. Rice Shelling Stones, Barley Millstones, French Burr Millstones. Steel Tools for dressing stones. Corn Grinding Mills, elevators for lifting corn, rice, &c., with regulating screw for adjusting pullies when running. Porcelain Rollers to be used instead of iron or steel rollers for grinding middlings, cocoa, linseed, &c. Grain Separators. Middlings purifier. Chondrometer for telling the weight of corn per bushel. Malt Kilns. Kiln Tiles. Woven Wire for kiln floors. Malt Screens. Malt Turning and Emptying Shovels. Gauge Rods. Improved Corn-drying Kiln. Grain Measuring and Weighing Apparatus. Various apparatus used in brewing and malting. Samples of barley, malt, and rice. Paper Machine Wires. Mining Wires. Perforated Plates for mining purposes. Stampers. Sieves in iron, brass, and copper. Machine Brushes. Coffee Cleaning Machines. Cocoa Machinery. Starch Machinery. Mustard Machinery. Improved Bullock Gear for working pumps, &c., specially designed to suit the Indian markets. Fire Bricks. Fire Clays. Leather Driving Bands.

Crowley, John, & Co. ; Ironfounders. Manufacturers ; *Meadow Hall Iron Works, near Sheffield.*

Chaff Cutters, Nos. 1a, 2, and 3, very useful for small users of chaff. Safety Lever Chaff Cutters (S. Edward's patent), Nos. 6 and 10, worked by horse, steam, or water power. Lawn mowers (The Invincible), S. Edward's patent, 10-inch and 14-inch, fitted with wood regulating rollers to work either at the front or back of the revolving cutters. Samples of various descriptions of patent Carburetted Malleable Cast Iron Castings for Agricultural Machines.

Davies & Sneade ; Millstone Manufacturers and Mill Furnishers, Inventors ; *Cheapside, and Charters St., Liverpool.*

One pair 4 feet diameter French Burr Millstones built on our improved principle to work for granulating. A Rice Millstone (Derbyshire Peak) from our own Quarries.

Davis's Excelsior Knife Cleaning Machine Company, Limited; Patentees and Manufacturers; 69, *Leadenhall St., London.*

Knife Cleaning Machines, Mincing and Sausage Machines, and other labour-saving articles for domestic use. Cutlery and improved Openers for tin cases of preserved provisions. Coffee Mills.

Dell, William R., & Son; Millstone Builders and Millwrights; Inventors and Manufacturers; 26, *Mark Lane, London. Works, Limehouse, London; and Croydon, Surrey.*

Millstones. Machines for cleaning wheat previous to grinding. Machines for purifying sharps. Machines and implements for flour mills.

Duvalon & Lloyd; Hydraulic and General Engineers. Manufacturers and Inventors; *Atlas Works, Oozell St., Birmingham.*

A machine to produce one ton of ice in 24 hours, complete with the exception of the steam boiler. A 14-horse-power Horizontal "Atlas" Engine, with expansion gear. A pair of coupled "Atlas" Engines consisting of two horizontal engines, equivalent to 6-horse-power each. A 3-horse-power "Atlas" Vertical Engine. A similar engine on base with boiler and feed water heater. A 5-horse-power "Atlas" Vertical Engine. A similar engine on base with boiler and feed water heater. A Fire Engine for ship's decks. Three Hand Pumps, 3-inch, 4-inch, and 5-inch (patent design).

Eastwood, James, & Co., Limited; Machinists, Inventors; *Victoria Machine Works, Bold St., Preston, Lancashire.*

Compound Action Barrel, Tub, Box, and New Patent Streamlet Churns. London Sycamore Box Churns. The "Victoria" Washing Machine. Wringing and Mangling Machines. Machinery for Mixing and Boiling Size, Starch, and Colour for Cotton Weaving, and Printing, and Bleaching Cloth.

Etzensberger, Robert Ulrich; Inventor and Manufacturer; *The Midland Grand Hotel, London. Works, Shoe Lane, London.*

Patent Apparatus for making infusions or extracts of substances by steam pressure applied to household purposes.

Gerant, Eugene, & Co.; Manufacturers of Mineral Waters and Apparatus, Inventors; 1 and 2, *Corporation Buildings, Farringdon Road, London.*

A continuous apparatus for making mineral waters to produce from 4,000 to 55,000 bottles daily. An improved bottling and corking and self-acting syringing dosing machine combined. A similar apparatus for the Syphon. Seltzogenes and Syphons for the production of mineral water for private use.

Hancock, F. & C.; Engineers, Inventors, and Manufacturers; *Dudley, Worcestershire.*

Machines for washing butter from all traces of milk and acid; also for cooling and making it firm in hot weather without

touching it with the hand, and for removing the flavour of turnips, and turning salt butter into fresh for daily use by the action of cold water only. Patent Bread Crumbing and Sugar Grinding Mill, for reducing bread crust or crumb and lump sugar into powder in two minutes without being touched with the hand. Patent Household and Sanitary Cinder Sifter, working without dust. Patent Inkstand for preserving copying, coloured, and black inks without evaporation. Patent Mixing Machine, for hand or steam power, for blending and mixing materials of compound powders.

Ladd, John H., & Co. ; Machinery Merchants and Manufacturers and sole Licensees of the Boomer & Boschert Press; 116, *Queen Victoria St., London. Works, Manchester and Paris.*

The Boomer and Boschert Press, worked by hand or steam power, by which a pressure equal to hydraulic can be obtained; specially adapted for wine, cider, or cognac. (*See also Class 61.*)

Lawrence & Co. ; Brewers' Engineers, Coppermiths, Brass and Iron Founders and Inventors; 22, *St. Mary Axe, City, London. Works, Latimer Road, Notting Hill, London.*

Patent Capillary Refrigerators for cooling brewers' and distillers' wort, thick mash, milk, and all other fluids, and for condensing purposes. Patent Capillary Double Refrigerators on Trunnions for cooling brewers' wort, milk, &c. with well companies and ice-water. Special Apparatus for heating and cooling wine. General Brewery Machinery, including Sparger's Attomperators, Self-acting Mashing Machines, &c. Collingridge's Improved Low-temperature Still, economizing 60 % of fuel. Hodson's Patent Hop Filter and Extractor.

Lloyd, Thomas, & Sons ; Steel Mill Makers; 327, *Old St., Shoreditch, London.*

Large Coffee Mill, fitted with brass hopper for cafés and shops. Flour Mill and Dressing Machine (domestic), for farmers and colonists, and for armies for Grinding Meal for soldiers' bread. Indian Corn Grinding Mill. Bread Making Machine.

Lowcock & Barr ; Agricultural Engineers and Manufacturers; *Salopian Iron Works, Coleham, Shrewsbury.*

Two-horse "Eclipse" Mower and combined Machine. Two-horse "Emperor" Mower and combined Machine. No. 1. Star Chaff Cutter suitable for small occupiers. No. 9, H Star Chaff Cutter recommended where a large quantity of chaff is required; fitted with an entirely new Patent Safety Bar or Guard. No. 6, J. A. Pulper, Slicer or Finger Piece Cutter, a cheap and useful machine. No. 1a, Slicer and Finger Piece Cutter. Improved Oil-cake Mill to break the cake into five different sizes. Reaper Knife Vice, fitted with box of tools. Improved Compound Lever Cheese Press, 22 inches between pillars, very cheap and durable. Improved Horse Hoe for turnips, &c., fitted with spike and chain harrows.

Meadow Foundry Company, Limited ; Iron and Brass and Projectile Founders, and Engineers and Inventors; *Mansfield, Nottinghamshire.*

A combined Steam-jacketted Press for steaming, pressing, drying or baking, preserving and darkening twist, roll or coil,

Cavendish, and other tobacco in one operation. A powerful Screw Press, with worm and wheel-power and quick independent motion, for pressing tobacco, cotton, hay, &c., &c. A wrought-iron "Nail Rod" Box for pressing, baking, and finishing "Nail Rod" or tobacco in sticks. A Circular Box for preserving, baking, and finishing "Target," or circular tobacco, in cake, and for roll or coil tobacco. A Stalk Crushing and Flattening Machine for crushing or opening out the stalk or stem of tobacco leaf, preparatory to using the stalk in manufactured tobacco; also for crushing seeds, Indian corn, all kinds of roots and other products to any degree of fineness, or to a pulp; and for pressing or flattening leather and a variety of other articles.

Penney & Co., Limited; Machinists, Ironfounders, Wire-workers, &c.; Lincoln.

An adjustable Rotary Corn Screen. An adjustable Corn Screen, with Stone-separator and Blower. Adjustable Corn Screen, with Stone-separator. Adjustable Coffee Sizing Machine. An adjustable Rotary Finishing Screen for Thrashing Machines. A Potato Digger. A Potato Separator.

Rose, L., & Co.; Lime Juice Merchants, Manufacturers and Inventors; 11, Curtain Road, Finsbury, London.

An Improved Stopper for Bottles containing Aerated Liquids, and the mode of using the same. (*See also Class 74.*)

Scott, Walter; Mechanical Engineer and Inventor; 120 and 121, Newgate St., London.

Patent Multitubular Vertical Boiler. Patent Knife Cleaning and Polishing Machine, and articles of domestic utility.

Siebs & Gorman; Engineers, Inventors; 17, Mason Street, Westminster Bridge Rd., London.

Improved Ice-making Machine, to produce transparent ice in block. (*Exhibit also in Class 67.*)

Stafford, Samuel; Inventor and Manufacturer; 17, Hanging Ditch, Manchester.

Stafford's Magnetic Nail-detecting Machine, for the purpose of taking nails and the small chaff out of roasted coffee before grinding.

Triggs & Benson, TRUSTEES OF THE ESTATE OF THE LATE THOMAS CARR; *39, Broad St., Bristol. Works, Messrs. G. Adlam & Sons, Bristol. Agent in Paris, M. Toufflin, 25, Rue de Constantinople.

Carr's Improved Patent Disintegrator. This machine effectually pulverizes, by the combined influences of percussion and of centrifugal force, iron, zinc, and other ores; asphalt, artificial manures, phosphates, &c.; coal for the manufacture of patent fuel, coke, and other substances, and is very effective for mixing sugar.

Tyler (Hayward) & Co.; 84 and 85, Upper Whitecross St., London.

Improved apparatus for the manufacture of mineral waters of all kinds for large and small factories, with bottling apparatus

for corks, syphon bottles, and patent stoppers. Barrett and Elers' Patent Bottling Apparatus, and Self-closing Stoppers for mineral water bottles. (*See also Class 54.*)

Walworth, James, & Co.; Albert Works, Bradford, Yorkshire.

A new Patent Middlings Purifier. One new Patent Wheat, Rice, and Seed Separator, with Aspirator combined. One Middling Duster and Offal divider.

The Wenham Lake Ice Company; Ice Merchants, Inventors and Manufacturers of Refrigerators; 125, Strand, London.

Refrigerators or Portable Ice Houses ventilated for preserving ice and all kinds of provisions for a very long period and in a fresh state, the air being cooled and dried by passing over the ice. Ice Machines, &c.

Wilder, John; Agricultural Engineer and Inventor; Yield Hall Foundry, Reading.

New Chaff-cutter "The Gem," No. 0. New Pedestal Chaff-cutter, No. 1, with new spring rising mouth. New Pedestal Chaff-cutter, No. 2, with new arrangement for cutting two lengths without change-wheels. New "Star" Chaff-cutter, No. 3, with new rising mouth, will cut two lengths without change-wheels. New "Star" Chaff-cutter, No. 4, with new rising mouth and new stop motion for horse-power. New "Safety" one horse Gear with "Safety" intermediate motion, new ratchet motion, &c.

Woods, Cocksedge, & Co.; Engineers and Agricultural Implement Makers and Inventors; Suffolk Iron Works, Stowmarket, Suffolk. (Agent in Paris, Th. Pillet, 24, Rue Alibert.)

Vertical Engine and Boiler combined, simple in construction and economical in coal. The wearing parts are all enclosed in one casting, which forms a protection and gives strength in working. A Horizontal Engine, has the cylinder steam-jacketed and fitted with variable expansion valves. Patent Corn grinding Mill. Safety horse gear, and intermediate motion. Improved Crushing and Grinding Mill. Improved Cake Breaker. Patent Disc Root Cutter, Patent Improved Root Pulper. (*See also Class 68.*)

CLASS 53.—APPARATUS USED IN CHEMISTRY, PHARMACY, AND TANNING.

Laboratory utensils and apparatus.

Apparatus and instruments used in assays for industrial and commercial purposes.

Processes and apparatus used in the manufacture of chemicals, soaps, and candles.

Processes and apparatus used in the manufacture of essences, varnishes, and articles made of india-rubber and gutta-percha.

Processes and apparatus used in gasworks.

Processes and apparatus used in bleaching.

Processes used in the preparation of pharmaceutical products.

Processes used in tanyards, and in leather dressing.

Processes and apparatus used in glassworks and in china and earthenware manufactories.

Cowan, W. & B. ; Wet and Dry Gas Meter Manufacturers; *Church St., Millbank St., London ; Dutton St., New Bridge St., Manchester ; Buccleuch St. Works, Edinburgh.*

Warner and Cowans' Self-regulating Gas Meter, and three cylinders to show construction.

Doulton & Watts ; Potters; *Lambeth Pottery, London. (Paris, 6, Rue de Paradis Poissonniere.)*

Stoneware used in the manufacture of chemicals. (Exhibited in Class 66.)

Gibbons, B., jun. ; Manufacturer of Fire Clay Goods and Patent Machine made Retorts; *Dibdale Fire-clay Works, Lower Gornal, near Stourbridge.*

A Round Retort hand made, (old process). A D Retort, machine made (new patent process). Sections of machine made Retorts in the "rough," and without being finished. Burs, Bricks, Tiles, &c. Fire-clay, raw and unprepared, and burned. Fine Fire-clay cement. Fire Bricks, Blocks, Models, &c. Fire-clay, natural and prepared.

Hargreaves & Robinson ; Patentees and Inventors; *Victoria Road, Widnes, Lancashire.*

Coloured Drawings of Hargreaves and Robinson's Apparatus for the manufacture of sulphate of soda by the direct action of sulphurous acid, and without the use of vitriol.

Johnson, Matthey, & Co. ; Metallurgists; *Hatton Garden, London.*

Improved Platinum Apparatus, chiefly for the concentration of sulphuric acid, and for scientific purposes.

Mackrill, Edward Thacker, & Co. ; Gas and General Engineers; *Kingsbury, Aylesbury, Bucks.*

Models of Gas Works.

Mactear, James, F.C.S. ; Inventor ; *St. Rollox Chemical Works, Glasgow, Scotland.*

Model of Mechanical Furnace for chemical operations, invented by exhibitor, and now extensively used in the manufacture of alkali, with the result of saving largely in cost of manufacture. (See also Class 47.)

Sugg, William ; Inventor, Patentee, and Manufacturer ; *Vincent Works, Vincent St., Westminster, London. (Paris, 12, Rue du Dauphin.)*

Gas Apparatus : Illuminating Power Meter, and Kirkham and Suggs' Improved Jet Photometer ; both showing illuminating power of gas. Experimental Meter with central dial, showing the consumption of gas per hour. Patent Dry Gas-Holder, with flexible joints. Patent Street Lamp Governor ; also another with glass cover. Patent Double Dry Consumers' Governor ; also another with glass cover to show action of diaphragms while in actual use. Various Gas Burners, Argand and others.

The Sun Auto-Pneumatic Lighting & Heating Co. ; Gas Machine, Lamp, and Gas Burner Manufacturers (C. E. Hearson, Inventor) ; *115, Southwark St., London.*

A Machine for making gas from gasoline without coal or heat. This machine is specially adapted for lighting the houses of country gentlemen, churches, &c., where coal gas is not obtainable. A street lamp which makes gas as it burns, the light from which is as cheap as coal gas at 3s. per 1,000 feet. An oil lamp, burner, and gas-burner. The particular features in these are a series of vertical diaphragms in the central air space by which the air currents are regulated.

Tice, William ; Gas Engineer, Patentee, and Manufacturer ; *74, Park Road, Southport, Lancashire. Works, Victoria Iron Works, Ashton-under-Lyne.*

Tice's improved Dry Gas Regulator for economizing and equalizing the pressure of gas. Tice's Radiating Street Lamp Regulator to supply any given number of cubic feet per hour. Tice's improved weight hooks and saddles for spinning machinery, to obviate the necessity of oiling. Tice's plan of warming Railway carriages with pure air. Under cut Tiles. Improved Rollers, Pickers, &c.

Toleman, James ; Leather Graining Roller Cutter ; *80, Bermondsey St., Bermondsey, London.*

36 Graining Rollers, in various sizes, in steel and gun-metal, showing the various grains used in the manufacture of leather work.

Tyler, John Henry ; Tanners and Leather Dressers' Engineer, Inventor ; *Abbey Iron Works, 36 and 38, Abbey St., Bermondsey, London.*

Mills for grinding Myrabolams, Valonia, Mimosa, and Oak Barks, Cork, Charcoal, &c. A 6-horse-power Engine to drive the above, also suitable for other purposes. A Tanner's Roller Box, with gun-metal roller for rolling or compressing tanned hides, offal, &c. A Tanner's Cast-Iron Fleshing Beam. Sundry small tools used in a Tannery.

Wenger, Albert; Manufacturer of Implements and Materials for Potter's use; *Parker Street Works, Hanley, Staffordshire.*

A Colour-grinding Machine. A Potter's Turning Lathe. A Potter's Printer's Colour-mixer. (*See also Class 47.*)

Wright, John, & Co.; Gas Engineers, Inventors, and Manufacturers; *Essex Works, Broad St., Birmingham; and 155a, Upper Thames Street, London. Paris, 72, Rue Dunkerque.*

"Eclipse" Gas-making Apparatus for private houses, railway stations, &c. (*See also Class 27.*)

William Wright; Gas Engineer and Inventor; *London Road, Highfields, Sheffield.*

A Patent Atmospheric Gas-making Apparatus. An Atmospheric Gas Stove. A Common Coal Gas Stove. A Hot Plate. A Melting Pan. A Paint Burner. A Tinman's Stove. A Water Heater for Baths, Greenhouses, &c. An Air Stove. A Soldering Apparatus.

CLASS 54.—MACHINES AND APPARATUS IN GENERAL.

Separate pieces of machinery: bearings, rollers, slide-bars eccentrics, toothed wheels, connecting rods, cranks, parallel joints belts, funicular apparatus, &c. Gearing, spring and catch work &c. Regulators and governors.

Lubricators.

Machines for counting and registering. Dynamometers, steam gauges, weighing machines. Gauges for liquids and gas.

Machines used for moving heavy weights.

Hydraulic machines for raising water, &c.; norias (chain pumps), scoop wheels, hydraulic rams, &c.

Hydraulic engines, water-wheels, turbines, hydraulic lifts.

Accumulators and hydraulic presses.

Steam engines. Boilers, steam generators, and apparatus appertaining thereto.

Apparatus for condensing steam.

Machines set in motion by the evaporation of ether, chloroform, ammonia, or by a combination of gases.

Machines set in motion by gas, hot air, and compressed air.

Electro-magnetic machines. Windmills and panemones. Air-balloons.

Adair & Co.; Engineers and Patent Pump Manufacturers; *Neptune St., Liverpool.*

One pair Patent Double-action Main Pumps, complete. One pair Patent Double-action Main and Bilge Pumps, combined, to pump from main well or bilges. Improved Patent Double-action Fire Engines, with hose complete.

Alley & Maclellan; Hydraulic Engineers, Valve Manufacturers, and Brass and Iron Founders, and Inventors; *Sentinel Works, London Road, Glasgow.*

Patent Sluice Valve for waterworks, having four gun-metal faces and screw. The patent "Clear Way" Ball Hydrant, having internal cup-shield to prevent the ball being forced into the inlet from the main. Patent Air Valve, with cup-shield to prevent the rush of air lifting the ball and preventing further outlet from the main. Patent Water Meter for household and general use: a pressure Transmitting Meter having a continual flow. Alley's Patent Bearing Feeler, an instrument for giving warning, by sound or otherwise, when the bearings of machinery heat.

Appleby, Brothers; Mechanical and Civil Engineers; *Emerson St., Southwark, London. Works, London, Leicester, and Derby.*

A 5-ton Locomotive Steam Crane to lift, turn round, alter radius of jib, and to travel by steam power, controlled by one man; wrought-iron carriage with springs and all appliances for running with goods waggons for railway purposes. A 5-ton Portable Steam Crane, with horizontal engines to lift and turn round by steam for general purposes. A 10-ton Overhead Travelling Crane to work by hand or power, controlled by one man. A Direct-acting Steam Lift, with safety apparatus and reversing gear, both self-acting. A Wrought-iron Warehouse Crane, with direct-acting steam engines and reversing gear. A Steam Pile Driving Engine, with road wheels and shafts, the barrel worked by friction clutch. A Horizontal Winding and Pumping Engine, self-contained on wrought-iron girders. A Vertical Winding and Pumping Engine on wrought-iron frame. Donkey Steam Pumps for feeding boilers. Vertical Steam Pumps. 25-ton hand power "Woolwich pattern" Winch.

Aveling & Porter; Engineers, Inventors, and Manufacturers; *Rochester, Kent; 72, Cannon St., London; 9, Avenue Montaigne, Paris.*

10-ton Steam Road Roller; it can be turned round in little more than its own length; is adapted for driving a stone-breaker or other fixed machinery. Improved Road Locomotive, fitted with spur gearing for two speeds; has Aveling's patent wrought-iron side plate brackets. Wagon for road locomotive; carries 6 tons; is fitted with wrought-iron wheels and friction brake, movable sides, &c. (See also Class 51.)

Beaumont, Lt.-Colonel, Royal Engineers, & Bolton, Lt.-Colonel; Inventors; 4, *Broad Sanctuary, Westminster, London.*

An 8-horse-power Compressed Air Locomotive, capable of drawing a loaded tramcar 10 miles on a road of average curves and gradients, without necessitating being recharged.

Bell, J. M., & Co.; Manufacturing Machinists; 491, *Oxford St., London.*

India Rubber Wringing Machines. Improved Mangles. Patent Home Washer. Patent Home Washer for laundries. Constant Revolving Ventilators for rooms, offices, &c.

Bernays, Joseph; Engineer, Inventor, and Manufacturer; 96, *Newgate St., London.*

One patent 4-inch Twin Cylinder Yacht Engine, with reversing gear, cylinders upright and double acting, connected to one crank, shaft between cylinders, very compact, no "dead centre." One patent 6-inch Twin Cylinder Steam Engine on same principle. A Patent Improved Centrifugal Pump. A Patent Mechanical Stoker for Steam Boilers, invented by Mr. H. C. Carver, The Railway Works, Llanidloes.

Bourne, John, & Co.; Engineers, Inventors, and Manufacturers; 66, *Mark Lane, London.* *Works, Glasgow.*

Small horizontal engines working at a high speed and developing a large amount of actual power. The high speed is rendered possible by the momentum of the reciprocating parts being balanced by counterweights, and by the wearing surfaces being all of extra size to prevent wear.

Bowing's Patent Filter Press Company, Limited; Manufacturers and Inventors of Filter Presses; 184, *Gresham House, Old Broad St., London*; *Works, Barth's Wharf, Woolwich Dockyard.*

Five Bowing's Patent Filter Presses for Brewers, Distillers, Potters, Sewage Works, Chemical Works, Sugar Refiners, Cement Manufacturers, &c., showing the following advantages over all other filter presses:—1. No continuous cloth required, —2. Consists of one chamber only. 3. By it any volume of matter can be treated as a whole.

Bradford, Thomas, & Co.; Engineers, Inventors, and Manufacturers; 140 to 143, *High Holborn, London*; *Crescent Iron Works, Manchester.*

Patent "Vowel" Washing and Wringing Machine, steam power, for public Steam Laundries, Hospitals, and Asylums. Patent "Vowel" Washing, Wringing, and Mangling Machine, hand power, for domestic use. Patent "Shuttle" Washing and Boiling Apparatus, steam power, for new linen, shirts, collars, &c; also for washing rags for paper makers, and cleaning cloths and cotton waste for railway companies. Patent "Shuttle" Washing Apparatus for domestic use. Patent Calendering Machine with metal rollers, heated by gas and steam, for finishing linen fabrics. (*See also Class 52.*)

The Broughton Copper Company, Limited; *Broughton Copper Works, Manchester.*

Calico Printing Rollers, in copper and brass, for garments and handkerchiefs. Copper and Brass Tubes, seamless and brazed for locomotive and marine boilers, surface condensers, steam, water, gas, and other purposes. Copper Stay Bolts, solid and hollow, for locomotive fire boxes. Copper Singeing Plates for dressing calico.

Brown, Benjamin & John, & Co.; Gas Engineers, &c.; 89, *Charlotte St., Blackfriars, London.*

Machine Oil Feeders; Gas Meters; Gas Lamps.

Clayton & Shuttleworth; Manufacturing Engineers and Inventors; Lincoln, and 78, Lombard St., London.

Portable, Horizontal, and Traction Engines. (Exhibited in Class 51.)

Cohné, Sigismund; Engineer, Inventor, and Manufacturer; 13, Sise Lane, London.

Bearings for all kinds of machinery, and not requiring lubricating.

Dewrance, John, & Co.; Engineers, Inventors, and Manufacturers; 176, Great Dover St., Southwark, London.

"Asbestos Packed" Cocks, Water Gauges, and Valves (Dewrance's and Mallinson's patents). Anti-friction White Metals for machinery and railway bearings, &c. (Dewrance's and Babbitt's patents). Special Test Gauge and Duplex Gauge used as standards by the British Government Board of Trade. Patent Autographic Frictionless Pressure Recorder. Patent "Asbestos Packed" Lubricator. Davis's Patent Locomotive Lubricators.

Dobson, Thomas Samuel, & Co.; Inventors; Stoney St., Nottingham; Works, Forest Road, Nottingham.

Furnace Bars, constructed as to afford an amount of air-way greatly in excess of any other existing bar. This advantage causes perfect combustion and an immense saving in fuel. In consequence of the great draught, almost any inferior quality of coal or slack (however small) is readily consumed. The bars are adapted for all kinds of boilers, drying and other pans. No alteration in furnaces required.

Dodman, Alfred; Engineer, Inventor, and Manufacturer; St. James' Iron Works, King's Lynn, Norfolk.

One 5-horse-power Improved Combined Vertical Steam Engine and Multitubular Boiler. These engines are noted for compactness and neat appearance; and the stop, throttle, safety and slide valves are exposed for repairs and adjustment, if required at any time, by simply taking off the steam chest-cover.

Edwards, William John; 20, Market Place, Manchester.

Main Leather Driving Belts (Sampson & Co.'s Patent), made any length, width, or strength without cross joints, to transmit up to 500 indicated horse-power.

Faija, Henry; Civil Engineer and Inventor; 4, Great Queen St., Westminster, London.

A Speed and Revolution Indicator, not an ordinary Engine Counter. It can easily be attached to any engine shafting or other machinery, and by means of a dial and pointer shows continuously the number of revolutions or other movements being made per minute by the machine to which it is attached. It is constructed on purely mechanical principles, without the intervention of centrifugal or any other intermediate force; the indication is therefore absolute and not comparative.

**Galloway, W. and J., & Sons; Engineers and Boiler Makers,
Inventors; Knott Mill Iron Works, Manchester.**

Three "Galloway" Boilers, 1875 patent, each suitable for driving 300 indicated horse-power, and intended for an ordinary working pressure of 5 atmospheres. The boilers are each 28 feet long by 7 feet diameter, and contain two internal furnaces, each 2 feet 9 inches diameter by 7 feet 6 inches long, going into one oval back flue containing 33 Galloway tubes. These boilers supply the whole of the steam required by the British Section of the Exhibition, both in the main building and in the Agricultural Annexe, including all the steam engines, steam hammers, &c. They contain all the latest and important improvements which have been introduced into the "Galloway" boiler by the makers during the last few years, and these improvements consist in giving much more room for getting about the flues, and so arranging the tubes that the whole of them are made interchangeable and the flanges square with the centre tube. A model of this boiler is exhibited in the building on a stand adjoining the main driving engines in the British Section. One Horizontal Compound Condensing Engine suitable for working up to 300 indicated horse-power, with a boiler pressure of 5 atmospheres, the high pressure cylinder having a bore of 20 inches, and the low pressure of 34 inches, with a stroke of 3 feet. The arrangement of cylinders here adopted reduces the steam passages to a minimum, and the engine is fitted with valves on the plain flat slide principle, so arranged as to be almost frictionless. Exhibitors' patent "recoil cut off motion" is attached to this engine, the lead being constant under all variations of load and the cut off instantaneous, the point at which this takes place being automatically regulated by the governor; the exhaust valves are worked by an independent eccentric, and the air pump is arranged horizontally for convenience. This engine is driving, by means of one strap, the whole of the main line shafts and various counter-shafts in the British Section; and is specially adapted for both strap and rope driving, owing to the perfect balance of its various working parts and the great regularity of turning. The whole of the gearing, both above and below the floor, has also been provided and fixed by exhibitors.

**arrett (Richard) & Sons; Engineers and Boiler Makers,
Inventors; Leiston Works, Suffolk. (Agent in Paris,
Th. Piller, 24, Rue Alibert.)**

Traction Engine for industrial purposes. Portable Engine for contractors' purposes, and independent boiler and detached fire-box. (See also Class 51.)

**Green, Edward, & Son; Engineers, Patentees, and Sole
Makers; Economiser Works, Wakefield, and 14, St.
Ann's Square, Manchester.**

Green's Improved Patent Fuel Economiser for heating the feed water of steam boilers by the waste or residual heat escaping to the chimney.

Guy, H. Augustus, & Co.; Engineers and Steel Manufacturers, Inventors; 11, *Cloak Lane, Cannon St., London. Works, London, Nottingham, and Sheffield.*

Specimens in the Ingot, manufactured bar in various sizes and sections, and finished representative tools of:—Guy's Invincible Tool Steel for boring and rifling steel and other guns and cylinders; also for turning chilled Rolls, steel Railway Tyres, and other hard and difficult materials. Guy's Invincible Tool Steel for dies and other similar tools requiring steel of unusual hardness and toughness. Also Guy's "Reliable" and "Mining" Tool Steel. Guy's Steam Boiler Preserver and Fuel Economiser for dissolving, removing and preventing the accumulation of the scale and other concrete formations in steam boilers, while it also allays priming in the Boiler. Specimens of Guy's Pure Metallic Tungsten for improving the quality of iron and steel.

Gwynne & Co.; Hydraulic, Gas, and Civil Engineers, Inventors; *Essex Street Works, Victoria Embankment, London.*

Combined Centrifugal Pumping Engine with Air-charging Pump, complete for raising wrecks, salvage purposes, surface condensers, drainage, and irrigation. Combined Gas Exhauster and Steam Engine, for extracting gas from retorts, and passing through the purifiers, with regulator and gas valves. A small size Gas Exhauster, as above. Three ordinary Centrifugal Pumps, with all the latest improvements; the internal disc and shaft can be taken out and replaced in a few minutes. Two Retort Lids for sealing the mouths of gas retorts instantaneously. A Small Turbine Water-wheel.

Gwynne, John & Henry; Hydraulic and Mechanical Engineers, Inventors, and Manufacturers; 89, *Cannon St., and Hammersmith Iron Works, London.*

One 5-inch Vertical Centrifugal Pumping Engine. One 9-inch Centrifugal Pump, with horizontal suction and vertical discharge, with one standard to bed plate. One 7-inch Pump, with two standards and fast and loose pulleys. One 9-inch pump on swivelling carriage. One 6-inch Pump on carriage, and one 12-inch Pump. Case containing model (one-eighth of full size) of pair of 54-inch Direct Acting Centrifugal Pumping Engines, four of which are now at work at Ferrara, Northern Italy. Case of small models.

Hadfield's Steel Foundry Co.; Manufacturers of Crucible Cast Steel Castings; Inventors; "*Hecla*" *Steel Foundry, Attercliffe, Sheffield.*

Crucible Cast Steel Castings for locomotives, marine, fixed, and portable engines, agricultural implements, rolling mills, forges, &c. Crucible Cast Steel Wheels for railway carriages (patented), tramways (patented), collieries, ironstone mines, slate quarries, lead mines, &c. &c.

Hathorn, Davis, & Davey ; Engineers ; *Sun Foundry, Leeds.*

Patent Compound Differential Pumping Engine, suitable for the supply of towns, &c. (H. Davey, Inventor). One patent Hydraulic Pumping Engine, for pumping water by means of water pressure (H. Davey, Inventor). A patent Differential Steam Pump for general pumping purposes (H. Davey, Inventor). A working model of Compound Pumping Engine. A working model of Hydraulic Pumping Engine.

Haynes (Thomas) & Sons ; Wholesale Ironmongers, Manufacturers, and Patentees ; 227, 229, and 231, *Edgware Road, London.*

Patent Hydronettes :—hand-pumps for watering gardens, fire extinguishing, &c. Patent Hydrons : platform pumps, throwing a continuous stream of water. Patent Regina Syringes. Patent Water-bringers, for easily drawing water through long lines of hose. A self-feeding smoke-consuming Cooking Stove.

Hindley, Edmund Samuel ; Engineer, Boiler Maker, &c., Inventor ; *Bourton, Dorset.*

Three-horse-power Vertical Fixed Steam Engines and Boilers combined, on water-heater foundation. One-horse power Vertical Steam Engine and Boiler combined, on water-heater foundation, and mounted on three travelling wheels, and with handle. (See also Class 51.)

Hopkinson, J., & Co. ; Mechanical Engineers, Inventors, and Manufacturers ; *Britannia Works, Fitzwilliam St., Huddersfield.*

Patent Mercurial Safety Valve for Steam Boilers ; prevents boiler explosions or accidents from high steam or low water. Patent Auxiliary Dead Weight Safety Valve. Patent Automatic Mercurial Steam Check or Isolating Valve for Steam Boilers. Patent direct-acting Swivel Arm Indicator for Steam Engines. Mercurial and Bourdon's Steam and Vacuum Gauges, and other specialities in steam boiler and steam engine engineering.

House (Henry) & Co. ; Engineers and Inventors ; 31, *Ludgate Hill, London.* Works, *Wellingborough.*

Improved Low Water Detector for Steam Boilers. Improved Steam-joint Cement.

The Hydraulic Engineering Co. (Limited) ; Mechanical Engineers, Inventors ; *Chester.* (Agent in Paris, *Henry Chapman, 11, Rue Louis-le-Grand.*)

Pair of Hydraulic Pumping Engines for 700 lbs. pressure per square inch. Accumulator for 700 lbs. pressure per square inch. Brotherhood's patent 3-cylinder Hydraulic Capstan for railway purposes. Johnson and Ellington's Patent Hydraulic Double-power Crane. Ellington's improved Ship Capstan, with Brotherhood's Hydraulic Engine. Ellington's Patent Movable Hydraulic Winch. Vapart's Patent Disintegrator and Pulverizer. Greindl's Patent Rotary Pump. Brotherhood's patent 3-cylinder Steam Engine.

Lawrence & Porter; Mechanical Engineers, Inventors, and Patentees; 36, *Parliament St., Westminster, London.*

Portable Centrifugal Steam Pumping Machinery, constructed principally for irrigating purposes in agriculture, but applicable to many other purposes where liquids are required to be raised and permanent pumping machinery is not required. The engine and pump are each fitted separately with travelling wheels and shafts for removal by horses, and they can be detached in a few minutes. This machinery can be arranged to suit varying lifts and quantities, according to requirement. These centrifugal pumps are also constructed with bed plates, when the latter are found more convenient.

Le Grand & Sutcliff; Engineers, Patentees, and Manufacturers; *Magdala Works, 100, Bunhill Row, London.*

Model of Norton's Patent "Abyssinian Tube" Well and Driving Apparatus. Column Pump, suitable for use with the patent tube well. Model of Le Grand and Sutcliff's Improved "Abyssinian Tube" Well Driving Apparatus. Norton's Improved Patent Registering Turnstile.

McKenzie (Thomas) & Sons, Limited; Manufacturers; 16, *Holborn Viaduct, London, 34, Dawson St., Dublin, and Victoria St., Belfast.*

Leffel's Patent Double Turbine Water Wheel, 23 inches diameter, for driving all sorts of machinery where water power is available; with a 30 ft. fall will give 55 horse-power.

Marshall, Alfred, & Co.; Engineers and Boiler Makers; *Perseverance Iron Works, Heneage Street, Whitechapel, London.*

A Vertical Boiler with Vertical Tubes, Fittings, Mountings, and Injector. A Vertical Boiler with cross tubes, Fittings, Mountings, and Injector. Each boiler is fitted with patent alarm for safety in case of deficiency of water, or extra steam pressure. (Exhibit also in Class 66.)

Martineau & Smith; Manufacturers of Gun Metal and Brass Cocks, Taps, Valves, and Fittings; *Holloway Head, Birmingham.*

Gun-metal Cocks, Valves, and Fittings for Steam Engines and boilers. Brass Cocks, Valves, and Fittings for Water. Brass and Silver-plated Beer and Wine Taps. Bells.

Mather & Platt; Engineers and Machinists, Inventors of Pistons and Pump Buckets; *Salford Iron Works, Manchester.*

Patent Ore Stamper for stamping every description of ores, also phosphates and coprolites. This machine will stamp one ton of tin ore and more than one ton of quartz per hour, and requires only five indicated horse power and 20 lbs. of coal to drive it. (Exhibit also in Class 57.)

Mandslay, Sons, & Field; Engineers; Westminster Bridge Road, London.

Model of a Four Cylinder Compound Marine Engine of 5,000 horses indicated power, as fitted in the Transatlantic Mail Steamers of the White Star Company, Liverpool; and of Engines of a similar type fitted in the vessels of the Compagnie Générale Transatlantique.

May & Mountain; Engineers, Millwrights, and Iron-founders; Suffolk Works, Berkley St., Broad St., Birmingham.

Three Colebrook's Patent Direct-acting Steam Pumps. One Horizontal High-pressure Steam Engine, with cylinders 7" diam. and 14" stroke. Hydrants and Stand Pipes for the extinction of fires and distribution of water. Steam Cylinder Lubricators. Locomotive.

Merryweather & Sons; Fire Engine Makers, Hydraulic and General Engineers, Inventors and Patentees; 63, Long Acre, York St., Lambeth, and Greenwich Road, London. (Agent in Paris, Henry Chapman, 11, Rue Louis le Grand.)

Steam Fire Engines, and Fire Appliances for home, foreign, and colonial governments, for cities and corporate uses, for buildings, manufactories, and estates. A London Metropolitan Fire Brigade Manual Engine. A London Brigade Curricule Fire Engine. A Japan pattern Manual Engine, to be worked by coolie power. Hose Reel. Fire Hand-pumps. Hall and Corridor Engines. Fire Buckets and Domestic Fire Escapes. Fittings for Fire Brigades. Firemen's Uniforms and Equipments, Hydraulic Engineering:—India Well Pump. Lift and Force Pumps. Compound Stationary Steam Pump. Hydrants, Standpipes, Valves, &c. Water-meters. Tram Locomotive work:—Tramway Locomotive, the "Merryweather." London Tram Car. Passenger Fare Recorder.

Moncrieff, John; Manufacturer; North British Glass and Ink Works, South St., Perth, Scotland.

Water Gauge Glasses, for showing the height of water in steam boilers: will bear 1,400 lbs. pressure to the square inch, and great variation of temperature. (See also Class 10.)

Müller, H. L.; Merchant and Manufacturer, and Patentee of Portable Gas Apparatus; 22, Mary Ann St., Birmingham.

Müller's Alpha Patent Portable Gas-making Apparatus to make gas from gasoline. No. 1 for 12 lights; No. 3 for 60 lights; No. 4 for 100 lights.

Napier, D., & Son; Vine Street, and 68, York Road, Lambeth, London, S.E.

Indicating Assay Balance, worked by motive power. Coin-weighing and Classifying Machines. Speed Indicators. Speed Regulators or Governors.

Nathan, David; Manufacturer; 2, Queen Street Place, London.

Novel and simple constructions of Platform Weighing Machines, suitable for all dimensions (Cozza's patent).

Newbold, Edward; Inventor; 22, *Low Pavement, Nottingham.*

Patent Furnace Bars for the saving of Fuel. The Bars being grooved alternately a current of air circulates around all parts of the metal and keeps them cool. The formation of clinkers is prevented, and almost complete combustion of the fuel is attained.

Nicholson (William Newnam) & Son; Agricultural Engineers and Inventors; *Trent Iron Works, Newark-upon-Trent. (Agents in Paris, Decker and Mot, 168 and 176, Boulevard de la Villette.)*

Vertical Steam Engines and Boilers, fixed and portable. (Exhibited in Class 51.)

Norris, S. E., & Co.; Leather Merchants and Manufacturers; 56, 57, 58, *High St., and St. Paul's Works, Shadwell, London.*

Leather Machine Belting. "Helvetia" Leather Machine Belting and Laces. Leather Fire Hose and Buckets. Hydraulic Ram and Cup Leathers. Sundry leather articles used for mechanical purposes.

Oakey, John, & Sons; Emery and Black Lead Manufacturers; *Wellington Mills, Westminster Bridge Road, London.*

Emery Stone as imported, Emery in grains and flour, Emery Cloth and Paper, Glass Cloth and Paper, Black Lead in packets and in blocks, Knife Polish, Knife Boards, Silversmiths' Soap, Putty Powder, Rouge, and Rotten Stone.

The Patent Nut and Bolt Co., Limited; Manufacturers; *London Works, near Birmingham; and at West Bromwich, and Newport, Mon.*

All kinds of Railway Fastenings, including Fish and Sole Plates, Fish and Fang Bolts, Spikes, and every description of Bolts, Nuts, Rivets, Coach Screws, &c. Telegraph Materials, &c.

Palmer, Morgan, & Co.; Coal Owners; *Cardiff, and 48, Coal Exchange, London. Paris, 5, Rue de Chateaudun.*

Economical Furnace Bars. (See also Class 43.)

Penn, John, & Sons; Marine Engine Manufacturers and Inventors; *Greenwich, near London.*

Model of Oscillating Engines, of 500 horse-power nominal, fitted in H.M.S. "Sphinx" in the year 1846. Model of J. Penn and Sons' Patent Trunk Engines, of 1,350 horse-power nominal, fitted in H.M.S. "Minotaur" and "Northumberland" in the years 1866 and 1867. Model of J. Penn and Sons' Patent 3-cylinder Compound Expansive Engines, of 2,000 to 4,000 horse-power indicated, fitted in the royal Italian corvette "Cristoforo Colombo" in the year 1876.

Pickering, Jonathan ; Engineer and Ironfounder, Inventor ;
Globe Works, Stockton-on-Tees.

Patent Differential Pulley Blocks which sustain the load.
Patent Hoists for quick lifting.

Plambeck & Co. ; 171, *Queen Victoria St., London*, and
101, *Deansgate, Manchester.*

West's Patent 6 Cylinder Steam Engine shown in motion.

Powis, Charles, & Co. ; *Cyclops Works, Millwall Pier*, and
60, *Gracechurch St., E.C., London.*

One Steam Crane, mounted on four travelling wheels (railway
or roadway), self-propelling or otherwise, to lift from 2 to 6
tons. (*See also Class 59.*)

Priestman, Brothers ; Inventors and Manufacturers ; *Hol-
derness Foundry, Hull.*

One Working Model of Patent Crane with self-acting bucket
for lifting seed, sand, shingle, small coal, &c. ; also for
dredging ; can be filled and discharged by the crane-man. By
adopting the patent block and brake arrangement the bucket
can be applied to any ordinary crane now in use.

The Pulsometer Engineering Co., Limited ; Hydraulic and
General Engineers, Patentees ; 61 and 63, *Queen
Victoria Street, London.* *Works, Wellington Road,
Battersea, London.*

A selection of Pulsometer Steam Pumps. These pumps work
without pistons, glands, plungers, rods, slide valves, or
leathers, but have one ball or other similar valve to regulate
the alternate admission of steam into the two principal
chambers and the ordinary suction and delivery valves. A
special feature of these pumps is their ability to pump thick
and dirty water. Every part is renewable and made to gauge.
A selection of Hydrotrophes—boiler feeders constructed on
the principle of the Pulsometer. Water Meters, made en-
tirely of gun-metal, registering with great exactitude the water
that passes through under a variety of pressures, the most
accurate inferential meters that have hitherto been constructed.

Russell, John, & Co., Limited ; Tube Manufacturers ;
Alma Tube Works, Walsall, Staffordshire.

Wrought-iron Locomotive Tubes ; also Gas and Steam Tubes,
Bends, Tees, Elbows, and Flanges. Brass Gas Cocks and
Swivels. Gun-metal Cocks, Valves, and Fittings for high-
pressure steam. Screwing Tools.

Scanlan, jun., & Co. ; Engineers and Manufacturers ; *Wal-
sall, Staffordshire.*

Mechanical Engineering Appliances. Steam Cocks, Water
Cocks, Pumps, Beer Engines. (*Exhibit also in Class 27.*)

Shand, Mason, & Co. ; Manufacturers of Steam and Manual
Fire Engines and Fire Appliances ; 75, *Upper Ground
St., Blackfriars Road, London.*

Patent Steam Fire Engine, invented and constructed by Shand,
Mason, & Co. for the Metropolitan (London) Fire Brigade, of

which 17 are at present in daily use in London. Patent Equilibrium Steam Fire Engine, of which about 40 are now in use in England, and large numbers on the continent of Europe and in various parts of the world. Patent Steam Fire Engine, fitted with self-propelling apparatus; also capable of being drawn by horses. Steam Fire Engine, as constructed by Shand, Mason, & Co. for Volunteer Fire Brigades, being the lightest yet made, weighing about 2,300 pounds avoirdupois English. Hydrants, Hose Reels, and sundry articles connected with fire extinguishing.

Shanks, Alexander, & Son; Engineers, Manufacturers, and Inventors; *Dens Iron Works, Arbroath, and 27, Leadenhall Street, London.*

One 16 horse-power horizontal high pressure Steam Engine, with patent automatic expansion gear shown in motion. One 6 horse-power vertical Steam Engine without automatic expansion gear.

Simon, Louis, & Son; Manufacturing Engineers and Patentees; *Wilford Road Works, Nottingham.*

Gas Engines. Lithographic Rotary Stone Grinder.

Smith, Michael Holroyd; Engineer and Inventor; *Royal Insurance Buildings, Crossley Street, Halifax, Yorkshire. Works, The Helix Furnace Co., Lancaster.*

A Mechanical Stoker. This machine supplies the fuel from below to the bottom of the fire as the fresh coal approaches the surface, the heat above draws out and burns the gases, entirely avoiding smoke and greatly economizing fuel. Fire-bars designed for the more perfect combustion of coal in ordinary furnaces consisting of a series of hexagon columns supported on a web, and are so arranged as to form a honeycomb of air space equal to the metal surface.

Southall, Charles Henry; Machinist, Manufacturer, and Inventor; *Dewsbury Road, Leeds.*

Automatic Machinery for brushing and polishing Boots and Shoes, to work either by hand or power. These machines can be made to clean from one to six boots or shoes at one and the same time.

Stannah, Joseph; Engineer and Crane and Lift Manufacturer, Inventor; 20, *Southwark Bridge Road, London.*

Stannah's Patent Pendulum Donkey Pumps. This simple and compact form of pump is obtained by means of the Pendulum by which all guide rods, eccentrics, straps, valve rods, and stuffing boxes are dispensed with. The Pump thus contains only two thirds the number of parts compared to those working with a connecting rod; the amount of friction is lessened in proportion, and the steam required for working reduced to a minimum. Stannah's Patent Safety Apparatus. This useful appliance is for holding the cradle of a lift or hoist in the event of the rope or chain breaking. The apparatus consists simply of two or more eccentrics attached to the cradle in such a manner that as soon as the rope or chain breaks they are re-

leased, and made to clip the guide or guides. It will work equally well with iron or wood guides, and its action at any time does not injure the lift or damage the guides.

Tangye, Bros. ; Engineers and Inventors ; *Cornwall Works, Soho, near Birmingham.*

Patent Horizontal High-pressure Engine. Patent Horizontal High-pressure Engine, with vertical tubular boiler. Four patent Horizontal "Soho" Engines of different sizes. "Special" Direct-acting 6-inch Steam Pump. "Special" Direct-acting Compound Condensing Steam Pumping Engine, with 13-inch double ram. "Special" Direct-acting Steam Fire Engine, 7-inch pump. Improved Vertical 10-inch Air Pump Condenser. A set of Galvanized Tackle Blocks as used in Her Majesty's Navy. London Pattern Rope Blocks, 1, 2, and 3 sheaves, and Snatch Blocks of different sizes. Two patent Wrought-iron Hydraulic Ship Jacks to lift 35 and 100 tons. Patent Hydraulic Lifting Jack to lift from 4 to 40 tons. Patent Hydraulic Locomotive Traversing Jack. An Hydraulic Carriage Lifter. Bottle and Tripod Screw Jacks. Single and double purchase Windlass Screw Jacks. Bottle and Tripod Traversing Screw Jacks. Sets of Weston's Patent Differential Pulley Blocks for various weights. Hoisting Crabs with Brakes. A 3½ Centre Single Speed Lathe, &c. A 6-inch Centre Double Geared Slide and Screw-cutting Lathe. An 8-inch Centre Double Geared Slide and Screw-cutting Lathe with gap.

Taylor & Co. ; General Manufacturers and Inventors ; 129, *Seven Sisters Road, Holloway, London.*

Patent Cast Iron Pipe or Column Cutter for cutting a continuous length or line of pipe in a trench or building without removal.

Terrell, William, & Sons ; Manufacturers of Rope and Patent Packing, Inventors ; *Welsh Back and Canons Marsh, Bristol.*

Packing for Locomotive Engines made in a round form composed of fibre, bark, &c. Packing for Marine and Stationary Engines and Hydraulic Rams, &c., plaited both round and square with and without india-rubber, centre composed of bark or other fibre, twisted braid and flax, or other fibre interwoven with wire.

Tullis, John, & Son ; Leather Manufacturers ; *St. Ann's Leather Works, John St., Bridgeton, Glasgow.*

Leather Main Driving Belts, Leather Belting for driving Machinery, lace sewn, hemp sewn, wire sewn, and cemented only. Leather Belts for belting. Leather Sewing Machine Bands. Leather Fire Hose Pipes. Leather Fire Buckets. Leather Sewing Laces. Leather Picking Arms for looms. Leather Pickers for looms. Buffalo Pickers for Looms. All kinds of Mechanical Leathers.

Turner, Fredk. Wm. ; Engineer, Inventor and Manufacturer ; *St. Alban's Iron Works, St. Albans, Herts.*

Quick Reversing Engine for driving the screw propeller, or hoisting machinery, in which the ordinary link motion and

eccentrics are dispensed with, the engine being reversed by means of a valve in the piston diverting the course of the steam. Large Engines are compound in one cylinder, viz., the steam can be worked twice over in each stroke or revolution. Non-reversing Engines for driving ordinary machinery and fitted with governors are constructed on the same principle. Improvements in Portable Pumps for agricultural and horticultural purposes. Improved quick speed Hydraulic Motors or Water-pressure Engines for driving any description of machinery by town water pressure or other source of supply. Improvements in Pumps for domestic purposes rendering them non-freezing, with a bucket possessing great durability and mode of fixing the handle in any desired position.

Twibill, Joseph; Engineer and Millwright, Inventor; Economiser Ironworks, Broadheath, Manchester.

Patent Fuel Economisers and Steam Boiler Filters, combined, to suit all kinds of boilers: the first supplies boiling water, the second filters the water as it passes through the heating pipes in the boiler flues and provides clean hot water for feeding steam boilers, and prevents incrustation.

Tyler (Hayward) & Co.; Hydraulic and General Engineers, Manufacturers, and Inventors; 84 and 85, Upper Whitecross St., London, and Luton, Bedfordshire.

Model of Cope and Maxwells' Patent Direct-acting Pumping Engine; a new self-governing arrangement of the valve gear of direct-acting steam engines, which perfectly regulates the speed of the engine, securing absolute safety against accident from the running away of the engine in case of bursting of pipes, &c., cutting off the steam to secure expansion and utmost economy, and allowing the pump valves to close gently at every stroke. Cope and Maxwells' Patent "Universal" Direct-acting Steam Pumps, with outside steam valve applicable for all pumping purposes up to a height of 300 metres. For pumping to a height of 80 metres they are fitted with Exhibitors' improved india-rubber ball valves. Cope and Maxwells' Patent "Universal" Direct-acting Steam Pumps, with outside steam valve, suited especially for boiler feeding and for deep mines. Rider's Patent Automatic Expansion Steam Engine, with out-off gear, controlled by the Governor, securing extreme economy of steam, and regularity of action, under varying loads. Hayward Tyler, and Co.'s Donkey Pumps for feeding steam boilers. Also their patent apparatus for preventing waste of water, and water works fittings. Constant's patent packing. Rider's patent compression Hot Air Engine for pumping and driving machinery, securing perfect safety from explosions, ease of management by inexperienced persons, and economy of fuel (at work in separate pavilion near boiler house). (See also Class 52.)

Whitley, John Robinson; Albert Park, Didsbury, Manchester.

Singleton's Self-stopping Beaming Frame. Bullough and Whitehead's Sizing and Cool Air Drying Machine. Patent expanding Comb, Reed and Wraith. Allen's Steam Engine Governor. Peet's Stop Valves for steam and water pipes and mains. Rodgers' Patent Wrought-iron Split Drum or Pulley.

Whitworth, Sir Joseph, & Co., Limited; Engineers, Manufacturers, and Inventors; 44, *Chorlton St., Manchester.*

Cylinder Linings made from a hoop of fluid-pressed steel and enlarged to size by being forged. Ingot of fluid-pressed steel, in section. Ingot of steel not pressed, in section. Hydraulic Cylinder made of fluid-pressed steel to stand a working pressure of four tons to the square inch. (Exhibited in Class 68.)

Wignall, Halsey, & Co.; Engineers and Steel Launch Builders; 82, *Mark Lane, London. Works, Terpedo Wharf, Wandsworth, London.*

The "Wignall and Halsey" patent two and three Cylinder Engines. Marine and Stationary Boilers. Wignall and Politt's Patent Piston Coils. (*See also Class 67.*)

Wolstencroft, Thomas, & Co.; Manufacturers; 46, *Ludgate Hill, London. Works, Hatton Garden, London.*

The "Empire" Washing and Wringing Machine, together with an improved movable bracket whereon to dry clothes; the combination of rollers working together imitates the knuckles in hand-washing. The "Empire" wringer has india-rubber rollers turned by a crank handle, but the combination of geared wheels is so arranged that whatever thickness of things be passed through the rollers the wheels are not thrown out of gear.

CLASS 55.—MACHINE TOOLS.

Engines and tools for preparing wood for the workshop. Machines for making casks.

Machines for cutting cork. Lathes, boring and planing machines. Slotting, drilling, and shaping machines. Screw cutting engines and rivetting machines. Various kinds of tools used in machine workshops.

Tools, engines, and apparatus for pressing, crushing, working up, sawing, polishing, &c. Special tools and engines used in various trades.

Hill, Charles E., & Co.; Merchants and Manufacturers; 119, *St. Vincent St., Glasgow.*

A Cork and Bung Cutting Machine.

Jackson & Brother; Engineers and Millwrights; *Wharf Foundry, Bolton, Lancashire.*

One 9-foot Wheel Moulding Machine. One 4-foot Table Wheel Moulding Machine. One Wheel Cutting Machine. The above machines all fitted with J. C. Scott's Patent Dividing Apparatus, which will accurately divide a circle into any given number of parts without the use of change wheels or pentagraph plates.

Sharp, Stewart, & Co., Limited; Engineers; *Atlas Works, Manchester. (Agent in Paris, Henry Chapman, 11, Rue Louis le Grand.)*

Machine Tools for the manufacture of engine-work and machinery and repairs of Locomotives. (*See also Class 64.*)

Smith & Coventry ; Machine Tool Makers and Inventors ;
Gresley Iron Works, Ordsal Lane, Salford, Manchester.

Patent Chasing Lathe for chasing between centres. Patent Sparspindle, Capstanrest, Chasing Lathe. Patent Grindstone for grinding cutting tools. Patent Screwing and Tapping Machine. Patent Planing Machine. Patent Radial Arm Drilling Machine. Two Thorne's Patent Portable Drilling Machines. Two improved Universal American Milling Machines. Improved Turret Lathe for Screw making. Cooper's Patent American Brass-finisher Lathe. Patent Toolholders. Twist Drills, Rhymers, &c.

Thomson, Sterne, & Co., Limited ; The Crown Iron Works,
 156, North Woodside Road, Glasgow, and 9, Victoria
 Chambers, Westminster, London. (*Agent in Paris,*
Henry Chapman, 11, Rue Louis le Grand.)

Emery Wheels ; Patent Emery Rings ; Machines for the application of Emery Wheels to Mechanical Industries : as machines for sharpening workshop tools, long knives, American twist drills, and screw taps ; machines for universal grinding, for grinding pulleys, for cleaning the teeth of spur wheels. Spiral Springs. Junction Rubber Springs. Rubber Centre Spiral Springs. Wool-cushioned Spiral Springs. Patent Hydrocarbon Engines. Esmond's Patent Power Presses.

Tweddell, Ralph Hart ; Civil Engineer and Inventor ;
 14, Delahay St., Westminster, London. (*Agent in*
Paris, Henry Chapman, 11, Rue Louis le Grand.)

A differential Accumulator with means of varying pressure given by it from 1,500 lbs. to 400 lbs. per square inch. A set of Hydraulic Pumps with automatic gear for starting and stopping them by the accumulator. A complete system of Hydraulic Pressure and Return Pipes, illustrating the system of hydraulic transmission of power to drive machine tools patented by the Exhibitor, shown at work on the following machines, viz. : A stationary hydraulic rivetter for rivetting marine, locomotive, and other boilers ; portable hydraulic rivetters with their cranes and connexions as used for bridges when being rivetted up "in situ," girders, &c. A Punching, Shearing, and Angle and Bar Cutting Machine, which can be used as "one" or "three" self-contained machines. Machine for bending and straightening Angle and Tee Irons, &c. Photographs and Models of actual applications of this system.

Whitworth, Sir Joseph, & Co., Limited ; Engineers and
 Inventors ; 44, Chorlton St., Manchester.

Machine Tools, &c. 5-inch Self-acting Foot Lathe. Screwing Apparatus. Internal and External Standard and Screw Gauges. 12-inch Measuring Machine. Standard Measures of Length. Photographs of Workshops, large and small. 40 Photographs of Tools, &c. Surface Plates, 2' 10", 2' 6". Metal Testing Machine. (Exhibited in Class 68.)

**CLASS 56.—APPARATUS AND PROCESSES USED IN SPINNING
AND ROPE-MAKING.**

Hand-spinning apparatus. Separate parts of spinning apparatus. Machines and apparatus used in the dressing and spinning of textile materials. Apparatus and processes for the subsidiary operations appertaining thereto: for drawing, winding, twisting, throwing, dressing. Apparatus for separating the qualities and numbering the thread.

Materials used in rope manufacture. Round, flat, tapering cables, cord and twine, wire ropes, cables with wire core, rope-matches, quick-matches, &c.

Bateman, Daniel, & Sons; Card Makers, Inventors, and Patentees; *Low Moor, near Bradford, Yorkshire.*

Tempered Steel Wire Cards; also Round, Angular, and Tinned Wire Cards of all descriptions.

Combe, Barbour, & Combe; Machine Makers and Inventors; *Falls Foundry, Belfast, Ireland.*

Machinery for preparing and spinning Manilla or Russian Hemp into yarns for ropes: viz., one patent Duplex Spreader or Drawing Frame, with screw gills and intersecting sheets combined; one patent Horizontal Spindled Spinning Frame. Special Machines for Flax Mill purposes: viz., one patent Press, for bundling yarns; a patent Fluting Machine; a special Lathe; a patent machine for winding pirns, and a case containing samples of work: viz., Spindles, Fliers, Hackles, Gills, Card-Clothing, &c.

Cotton, Stephen; Machine Maker, Inventor; *Brookfield Foundry, Belfast.*

Fine Hackling Machine, for hackling best qualities of Flax or Hemp. This process straightens or opens out the long fibres, and removes all the tow or short fibres. Coarse Hackling Machine for hackling Russian and other coarse flax, with the same object as the above.

Crossley, John, & Sons, Limited; Carpet Manufacturers. Manufacturers and Owners of the Patent; *Dean Clough Mills, Halifax, Yorkshire.*

A Noble's Comb, with Beecroft and Wrights' Patent attached, which dispenses with and thereby saves the expense of Dabbing Brushes; a series of segments working upon an incline press the wool into the circular comb at the time and place required.

Dobson & Barlow; Cotton and Wool Machine Makers, Inventors; *Kay Street Works, Bolton, Lancashire.*

A 40-inch double acting patent knife roller Cotton Gin. One patent Whipper Beater for 40-inch scutcher. A 50-inch revolving Flat Card. One 45-inch Composite Card. A Card Grinding Machine. A Roving Frame. A Drawing Frame. One Sliver Lap Machine. One Ribbon Lap Machine. One Patent Combing machine. A Stubbing Frame. One self-acting Mule for coarse counts. One self-acting Mule for fine counts. One Ring and Traveller Spinning Frame. Case of samples of Spindles, Rollers, Flyers, &c.

Fairbairn, Kennedy, & Naylor; Engineers and Machine Makers; *Wellington Foundry, Leeds.*

A system of Machinery for the preparing and spinning of flax, consisting of a pair of intersecting Hackling Machines of an improved and patent construction having an apparatus applied whereby both ends of the flax are hackled without manual labour. A Spreader for long line. A second Drawing Frame. A third Drawing Frame. A fourth Drawing Frame. A Roving Frame. A hot-water Spinning Frame. A Tow-combing Machine.

Goodall, A., & Sons; Card Clothing and Leather Belting Manufacturers, Inventors; *Clifton Bridge Mill, Brighouse, Yorkshire.*

Wood and Leather Card Coverings, for carding flax, tow, hemp, jute, silk, and oakum. Double and Single Leather Strap Belting. Silk Combs for use on silk Dressing Frames. Endless Leather Sheets, &c.

Hallam, Brothers; Manufacturers of Hackle, Gill, and all kinds of Flat Pins, Cast Steel Wire, &c.; *Ecclesfield, near Sheffield. (Agent in Paris,)*

Hand and machine hackles, gills and card clothing for dressing flax, wool, cotton, silk, tow, and jute.

Howard & Bullough; Makers of Machinery for Cotton Spinning and Manufacturing, Inventors; *Globe Works, Accrington, near Manchester.*

Carding Engine of the most approved construction, with patent electric stop-motion for preventing waste. Drawing Frame and Intermediate Frame of the most approved construction, with patent electric stop-motion for preventing "single." Rabbeth Ring Throstle, superior to any other kind of ring-spinning frame known, and produces from 15 to 25 per cent. more than the fly throstle with a saving of from 25 to 40 per cent. in power. Self-Stopping Beaming Machine (Singleton's principle).

Ingham, John, & Sons; Shuttle and Tackling Manufacturers; *Thornton, near Bradford.*

Shuttles for weaving of worsted, cotton, silk, alpacas, mohair, ribbons, flax, linen, carpet, woollens, worsted coatings, fustians, lastings, damasks, moreens, &c.; Shuttle Pikes for spools, pirns, and cops; Tackling, such as stocks and bows, heald shafts, &c., for weaving.

Irvin & Sellers; *Preston, Lancashire, and Bootle, Liverpool.*

Bobbins and Shuttles, and other articles, used in spinning and weaving cotton, flax, silk, and all fibres. Logs of Boxwood and other hard woods for the manufacture of furniture, &c.

Lawson, Samuel, & Sons; Machinists and Engineers, Inventors; *Hope Foundry, Leeds.*

Flax and Tow Preparing and Spinning Machinery. Preparing and spinning Machinery for Rope Yarns. Various special articles connected with these industries.

McNaught, John & Wm. ; Engineers, Millwrights, and Machinists, Inventors; *St. George's Foundry, Rochdale.*

A Machine for washing and scouring wool. A Machine for drying wool.

Platt, Bros., & Co., Limited ; Engineers and Machinists, Makers of all kinds of Cotton, Woollen, and Worsted Machinery, and of Machinery for preparing and spinning waste Silk, Inventors; *Hartford Works, Oldham, Lancashire.*

Cotton Ginning, Cleaning, Preparing, Spinning, and Weaving Machinery. Woollen Carding Machinery. Worsted Carding, Combing, Preparing, and Spinning Machinery.

White, John, & Sons ; Tanners, Curriers, and Leather Merchants; *Park Road Tannery and Leather Works, Bingley, Yorkshire.*

Double Main Driving Belts. Single Belts of various widths. Combing Leathers for silk, wool, jute, flax, &c. Soft and Hard Drawing and Spinning Roller Leathers. Oak Tanned and Green Picking Bands. Condenser Rubber Leathers. White, Brown, and Horny Leases.

CLASS 57.—APPARATUS AND PROCESSES USED IN WEAVING.

Apparatus used in the preparation of materials for weaving : warping mills, spooling (winding) machines. Card-making for the jacquard looms.

Hand looms and mechanical looms for the manufacture of plain fabrics. Looms for the manufacture of figured and brocaded stuffs : damask looms, electric looms.

Looms for the manufacture of carpets and tapestry.

Mesh-weaving looms for the manufacture of hosiery and net. Apparatus for making lace. Apparatus used in the manufacture of lace-work.

High-warp looms and different modes of preparing the bobbins for weaving. Accessory apparatus : machines for fulling, calendering, figuring, watering, measuring, folding, &c.

Blezard, James, & Sons ; Inventors, Iron and Brass Founders, and Machinists ; *Guy Foundry, Padiham, Lancashire.*

All kinds of self-acting Loom Temples, used for weaving cotton, woollen, silk, and linen goods.

Cockill, John, & Sons ; Leather Merchants and Manufacturers ; *Liversedge, Yorkshire.*

Rubbing Leathers for condensers of carding engines.

Craig, A. F., & Co.; Engineers, Machine Makers, Boiler Makers, and Ironfounders, Inventors; *Caledonia Engine Works, Paisley.*

One Double Cropping Machine, suitable for cropping or cleaning the surface of linen or other fabrics on both sides at one operation. Direct acting Steam Pump for lifting and forcing water or liquids with a Morton's Patent "Ejector Condenser," applied thereto, which gives a saving of from 25 to 50 per cent. of fuel over other direct acting steam pumps. Morton's Patent Ejector Condenser for producing a vacuum automatically without an air pump or moving parts in motive power engines. Vacuum Sugar Pans and other vessels where a vacuum is required, giving a saving of from 25 to 50 per cent. of fuel.

Hacking & Co.; Power Loom Makers and Machinists, Inventors; *Lord St., Bury, Lancashire.*

Handkerchief Loom with four shuttles. Coutil Loom. Strong Loom with six shuttles. Pick and Pick Loom with two shuttles. Calico Loom. Linen Loom. Pirn Winding Machine for wood pirns and paper tubes. Patent Folding and Measuring Machine.

Hall, Robert; Iron Founder, Engineer, Machine and Power Loom Maker, Inventor; *Hope Foundry, Bury, Lancashire.*

3/4 Brussels Carpet Loom, patent wire motion, with six framed creels, improved weighting and letting off motions, 1,500 improved jacquard double beat crank. Utrecht Velvet and Plush Loom, 36 reed space, patent wire motion, four shafts, tappetts, three yarn beams. Fancy Loom for fustian. Drills, Coutil, Ticks, &c., 38 reed space, taking up and improved picking motions, 9 shafts, patent improved oscillating treading motion.

Hattersley, George, & Sons; Makers of Power Looms, Inventors; *North Brook Works, Keighley, and Birksland Works, Bradford, Yorkshire.*

Power Looms in motion, manufacturing or weaving a variety of textile fabrics.

Hodgson, George; Machine Maker and Iron Founder, Inventor; *Laycocks Mill, Thornton Road, Bradford, Yorkshire.*

Plain Loom for weaving mohair, silk, worsted, and cotton; has 34 inches reed space, can be fitted up to 8 treads, and runs very fast from 200 to 320 picks per minute. Rep Loom for weaving reps, merinos, orleans, or twills; can be used with very delicate or fine wool warps: the friction or letting off motion is new. Circular Box Loom, for weaving checks, plaids, or stripes; is furnished with a patent motion for a revolving shuttle box, with 6 shuttles, to weave any number of even picks of colours from two upwards, and skip from one to five, or one to three. Cloth Loom for weaving broad cloth and backing cloth: it has three boxes on each side, and is fitted with a patent twilling motion for 16 to 20 shafts. Pick and

Pick : this is a Loom for weaving fancy goods of worsted coatings or merinos, and is adapted for either light or heavy goods.

Livesey, Henry, Limited ; Mill Furnisher, Machinist, Shuttle Picker, and Bobbin Manufacturer ; *Blackburn.*

Looms for weaving damask, domestics, shirtings, jacconets, &c. (light and heavy make). Samples of mill furnishing.

Mather & Platt ; Engineers and Machinists, Inventors of Pistons and Pump Buckets ; *Salford Iron Works, Manchester.*

Beetling Machine.—The object of the Beetling Machine is to produce a certain "finish" upon linen, cotton, woollen, and other textile fabrics by hammers of iron or wood being made to strike with great force and rapidity against the fabric which is wound upon metal or wood rollers. The effect of 1 hammer in this machine is equal to 8 hammers which are raised by cams and fall upon the cloth by gravity only, as in the machines hitherto used. Steam Engine to illustrate the power required and mode of driving the machines exhibited. Metallic Pistons and Air Pump Buckets for Steam Engines, showing a metallic packing always steam-tight and self-adjusting. (See also Class 54.)

Mitchell, William ; Woollen Shuttle Maker ; *Killinghall Mill, Ripley, Yorkshire.*

Power and Hand Loom Shuttles and Pickers for weaving woollen cloth ; Shuttle plates, wheels, spindles, springs, screws, pots, &c.

Sowden (David) & Sons (late Sowden & Stephenson) ; Manufacturers of Weaving Machinery ; *Thornton Road, Bradford, Yorkshire.*

Power Looms and Jacquard Machinery, for weaving worsted, cotton, woollen, and silk goods.

CLASS 58.—APPARATUS AND PROCESSES FOR SEWING AND FOR MAKING-UP CLOTHING.

Ordinary implements used by tailors and seamstresses. Sewing, quilting, hemming, and embroidering machines.

Implements for cutting out materials and leather for making garments and shoes.

Machines for making, nailing, and screwing boots and shoes.

Machines for the application of india-rubber.

Beck, William Henry ; Inventor and Patentee ; 139, *Canon St., London.*

A patented Machine for sewing the welts to the in-soles and uppers, and the outer soles to the welts of boots and shoes without removing the last.

Bradbury & Company, Limited; Sewing Machine Manufacturers and Patentees; *Wellington Works, Oldham, near Manchester*; and at 97, *Boulevard Sebastopol, Paris*.

Sewing Machines.—The “Belgravia” Lock-stitch Machines. The “Letter S” Machines for families or dressmakers. The “Letter H” Machines, Nos. 1, 2, and 3 for cloth or leather work. The “Elastic” or “Shoemaker’s Friend,” for putting in elastics, repairing; and general shoemaking. The “Practical Tailor,” specially for tailoring. The “Wellington,” new and improved lock-stitch hand machine, and other specialities.

Greenwood & Batley; Engineers and Machinists; *Albion Works, Armley Road, Leeds*.

System of Patent Boot Sewing Machinery. Patent Printing Machinery. Spreading Machine for silk waste. Special Machine Tools. Patent Nut and Bolt Forging Machine. Steam Launch Engine, 15 nominal horse-power. Patent Circulating Pump. Horizontal High Pressure Engine, 2 horse-power. Tramway Indicator. Collection of toolholders, drills, emery wheels, &c. Mining machinery and air compressors. Samples of War Materials, illustrating machine operations on rifles, cartridges, shells, &c. in different stages of manufacture.

The Howe Machine Company, Limited; Manufacturers of Sewing Machines and of Electric Motors, and successors of Elias Howe, jun., the inventor of the Sewing Machine; 46 and 48, *Queen Victoria St., London*, and at *Paris*, 48, *Boulevard de Sebastopol*.

Hand Sewing Machines. Sewing Machines for families and dressmakers, working either by hand or treadle, or both. Sewing Machines for tailors, for boot manufacturers, and with circular feed for repairing and general work. Parts and attachments of sewing machines. Cabinets, boxes, cases, and other woodwork appertaining to sewing machines. Samples of all kinds of work that can be executed by sewing machines. Electric Motors for driving sewing machines, organs, pumps, dental engines, &c.

Reilly, Francis; Tailor, Inventor; 20, *Shaw St., Dublin*.

A Sewing and Pressing Apparatus for working tailors, to enable them to perform their work while sitting on an ordinary chair, thereby obviating the necessity of sitting in the ordinary cross-legged position, so injurious to the health of the workmen. The apparatus, which can be screwed to a bench or table, consists of a pillar with a pressing board and rest for arm, moving on a pivot, the whole standing about nine inches high.

Salmon & Co.; Manufacturers of Boot and Shoe Machinery, Inventors; *Victoria Works, Kettering, Northamptonshire*.

A 25-inch Double Treadle Eccentric Press for cutting out shoe soles, worked by one man or two lads. A Pricking Machine for marking holes for rivets in shoe soles, lifts, and top-pieces, &c. A Toe-cap Punching Press for perforating toe-caps, with die plates of any design. A Treadle Eyelet Machine for fixing

eyelets in boot uppers. A "Treadle" Punching Machine for making holes in boot uppers for eyelets. A Revolving Eyelet or Punching Machine for punching holes and putting in eyelets and hooks in boot uppers. A Lever Blocking Machine for blocking boot uppers, from children's to men's short Wellingtons. A Combined Machine for ranging stiffeners, cutting runners, and split lifts. A set each of Men's, Women's, and Boy's Iron Lasts and Blocks for making rivetted boots and shoes on. A set of Steel Cutters for cutting out shoe soles, top-pieces and lifts, men's, women's, and boys'.

Sanson, Robert Bell; Engineer, Manufacturer, and Inventor; 87, *Globe Road, Mile End, London.*

Endless-band Knife Cloth-cutting Machine for cutting out garments, used in Government Clothing Factories, &c. It will cut from 3,000 to 4,000 cloth garments, or 5,000 cords or moleskin garments per week, with one man to mark out, two men to lay and fold, and two learners to fit and tie up.

The Singer Manufacturing Company; Manufacturers of Sewing Machines and Needles, &c.; *James St., Bridgeton, Glasgow.*

Sewing Machines of various kinds, and Machines for making button-holes. Samples of clothing and other specimens of work done on their Sewing Machines.

Smith, Starley, & Co., Limited; Mechanical Engineers, Sewing Machine Makers, Inventors; *Trafalgar Works, Coventry.*

Sewing Machines: "The Europa," "The Queen of Hearts," "The Little Dorrit," and "The Shoemith," and other patented Lock-stitch and Loop-stitch Sewing Machines adapted for every domestic and manufacturing purpose. Sewing Machine Needles and other appliances. Stocking-darning Machines. Automatic Workholders. Electric Motors applicable to Sewing Machines and other mechanism. Roller Skates, Bicycles, Tricycles, and suspended wheels for Perambulators, Bath Chairs, &c.

Symons, H. Cyrus; Engineer and Machinist; Inventor and Patentee; 2, *George St., Blackfriars Road, London.*

Sewing Machines. Looper in Arm for stitching tubular articles, hats, &c. Needle fixed in direct action balanced lever. Sewing Machine Stand, foot swinging motion, ensuring the body's erect, healthy action, less fatiguing to drive than treadles, and wears without jar or noise.

Tatham, Walter, & Co.; Manufacturers of Needles, Hooks, Guides, and Points used in Lace and Hosiery Machines; 42, *Castle Gate, Nottingham, and Kensington Works, Ilkeston, Derbyshire.*

Needles, Hooks, Guides, and Points, used in lace and hosiery machines.

Taylor's Patent Sewing Machine Company, Limited; Sewing Machine Manufacturers, Inventors; *Driffeld, Yorkshire, and 97, Cheapside, London.*

Treadle and Hand Lock-stitch Sewing Machines, both with patent elliptic movement. Twisted Loop Treadle and Hand Machines. Small Self-inking Printing Machine. Patent system of joining machine belts.

Wilson (Newton) & Co.; Sewing Machine, Horse-grooming and Sheep-shearing Machine Manufacturers; 144, *High Holborn, London. Works, St. George's Foundry, Birmingham.*

Sewing Machines of various types and attachments. Kilting and Plaiting Machines and attachments. Button-hole, Herring-bone, and Over-seaming Machines for manufacturing purposes. Button-hole Machines for shirt and collar work and for domestic use. Velocipedes, &c. (*See also Class 63.*)

CLASS 59.—APPARATUS AND PROCESSES USED IN THE MANUFACTURE OF FURNITURE AND OBJECTS FOR DWELLINGS.

Machines for cutting veneers. Turning webs, saw frames, &c.

Machines for cutting the mouldings and beadings of frames, the squares of inlaid floors, furniture, &c. Lathes and other apparatus used in carpentering and cabinet-making.

Machines for stamping and burnishing. Machines and apparatus for working stucco, papier-maché, ivory, bone, and horn.

Machines for pointing, carving, and reducing statues; for engraving, engine-turning, &c.

Machines for making bricks and tiles; machines for making artificial stones.

Machines for sawing and polishing hard stones, marbles, &c.

Eagles, Thomas Duncombe; Engineer, Manufacturer, and Designer; 23, *Fenchurch St., London; Factory, Joiners' Hall Works, Upper Thames Street, London.*

A Circular Saw Bench, 4 feet by 2 feet, with Circular Saw, 28 inches diameter, to cut 10 inches deep; adjustable turn over fence and fast and loose pullies. A Combined Vertical Steam Engine and Boiler, mounted on a cast-iron foundation, which forms a tank for the feed water. The Engine has steam jacketed cylinder, and is on a separate independent standard and not bolted to the boiler.

Gardner, A., & Son; Timber Preservers, Inventors; 36, *Jamaica St., Glasgow.*

Rapid seasoning of furniture woods. (*Exhibited in Class 66.*)

Powis, Charles, & Co. ; Manufacturing Engineers ; *Cyclops Works, Millwall Pier, and 60, Gracechurch St., London.*

A new improved Joiner Universal: it will take Saws up to 30 inches diameter, plane stuff 12 inches by 4 inches, and has four revolving cutters.

A Trying-up Machine, fitted with side cutters and feed rollers, specially adapted for taking the twist out of timber, and also for planing match boarding. A new combined Circular-sawing, Band-sawing, Recessing, Moulding, and Housing Machine. An endless Band-sawing Machine, for cutting wood into any circular, irregular, angular, or straight form. A new combined Circular and Band-sawing Machine, fitted with patent fret-cutting apparatus, and can be driven either by hand or steam power. A Combined Circular and Band-sawing Machine, with boring apparatus for hand power. An improved Mortising, Tenoning, and Boring Machine, with self-acting feed motion. A new Mortising Machine. (*See also Class 54.*)

Ransome, A., & Co. ; *Stanley Works, Chelsea, and Battersea Foundry, Battersea, London.*

New patent machine for felling and cross cutting trees. Machines for sawing, planing, moulding, &c. "General Joiners" and other special machines for joiners' work. Wheel making machinery, and machines for making gunpowder barrels, &c.

Reynolds, F. W., & Co. ; Engineers ; 73, *Southwark St., London,*

A Reynolds' General Joiner, combining in one machine a Self-feeding Circular Saw Bench, a Planing and Moulding Machine a Tenoning Machine, and a Band Saw Machine. A Circular Saw Bench. A Patent Steam Power Morticing Machine. A Combined Circular and Band Saw Machine for steam or hand-power. A Patent Morticing and Boring Machine for hand-power. A Morticing and Boring Machine with canting bed for hand-power. A Saw Sharpening Machine. A Patent Floor Cramp.

Roberts, William ; Venetian Blind Manufacturer and Inventor ; 139, *Derby Road, Bootle, near Liverpool.*

Self-acting Painting Machine for Venetian blinds and other purposes. Will paint 6,000 running feet per hour without steam power.

Robinson (Thomas) & Son ; Wood-cutting Machine Makers, Engineers, &c., Inventors ; *Railway Works, Rochdale.*

An Armstrong's Patent Dovetailing Machine for cutting both male, female, and blind dovetails. A Horizontal Reciprocating Saw Frame for cutting boards and panels from round or square logs. A Circular Saw Bench for sawing logs or deals, which are drawn through the saw by means of a rope worked round a drum. A Circular Saw for sawing deals which are fed through the saw by means of vertical rollers. A Circular Saw Bench with rising and falling spindle for sawing, tonguing, grooving, rebating, boring, and crow-cutting. A Planing and Moulding Machine for planing floor-boards or working straight

mouldings on all four sides at one operation. A Band Sawing Machine for sawing out circular or irregular shapes. A Morticing Machine. A Tenoning Machine. A small Rotary Planing Machine working one side at once. A small Fixed-knife Planing Machine for planing cigar boxes and thin boards. A Machine for sharpening Straight and Circular Saws. A Machine for grinding Plane Irons. A Machine for grinding Moulding Cutters.

Western & Co. ; Engineers and Machine Makers ; *Belvedere Road, Lambeth, London.*

Planing and Moulding Machine for floor-boards, match-boarding, &c. (patented). "General Joiner" for sawing, planing, moulding, tenoning, and rebatting wood. Vertical Spindle Moulding and Shaping Machine, with reversible cutter spindle (patented). Endless Band Saw Machine, top wheel adjustable for Bevel Cutting (patented). Mortising, Tenoning, and Boring Machine. Circular Saw, with rising and falling spindle and countershaft. All the above for wood. (*See also Class 50.*)

Worssam, Samuel, & Co. ; Engineers and Wood Working Machinists ; *Oakley Works, King's Road, Chelsea, London.*

A Worssam's Patent Four-cutter General Joiner and Combined Moulding and Planing Machine. A Worssam's Improved Trying-up Machine, with roller feed motion. A Worssam's Patent Single Deal Frame. Improved Morticing Machine with rising and falling table. A Worssam's Improved Four-cutter Moulding and Planing Machine. A Worssam's improved Saw Sharpening Machine. An improved plain Band Saw Machine. Improved hand Morticing Machine. Moulding Iron Grinder. Photographs of various Wood Working Machines and specimens entirely executed by the above machines.

CLASS 60.—APPARATUS AND PROCESSES USED IN PAPER-MAKING, DYEING AND PRINTING.

Materials and products of the manufacture of pulps for making paper, of wood, straw, alpha, &c.

Processes and products of the bleaching of wood fibre.

Apparatus for making paper by hand and by machinery.

Apparatus for pressing, glazing, watering, embossing, and ruling paper. Machines for cutting out, paring, stamping paper, &c.

Apparatus for bleaching and dyeing, and for the preparation of paper and tissues.

Apparatus for printing paper-hangings and tissues. Machines for engraving cylinders for printing.

Materials, apparatus, and products of type-founding, stereotypes, &c.

Machines and apparatus used in typography, stereotyping, copper-plate printing, autography, lithography, chalcography, paniconography, chromo-lithography, &c. Machines for setting up and sorting types. Printing of bank notes, postage stamps, &c.

Adie, Patrick ; 15, Pall Mall, London ; Factory, Broadway Works, Westminster, London.

Fraser's Type-composing and Distributing Machine, invented by Alexander Fraser, Printer, Edinburgh. Each of these machines is made to set up or distribute at least five different sizes of type without nicking or any other special adaptation of the type being necessary for either composing or distributing. The action of both is by means of keys, and each machine contains 96 letters, namely, capitals, small letters, figures, points, and spaces. 10,000 to 12,000 types per hour can be set up, or distributed.

Bailey, Brothers ; Engravers, Manufacturers, and Inventors ; 71, Chancery Lane, London.

Endorsing and Lever Presses, Stencil Plates, and Printing Appliances. Marking and Printing Ink, and Transparent Adhesive Liquid-Cement illustrated by specimens.

Blades, East, & Blades ; Lithographic and Letter-press Printers, Manufacturers ; 11, Abchurch Lane, London.

A complete set of red Vulcanized India-rubber Rollers (invented by Mr. Lanham, manager to the firm) ready for use on a Double Royal Lithographic Machine. The advantages are, no stretching, no seams, durability, not affected by water, damp, cold, or heat, cleaned without scraping in a few minutes, and never get hard.

Greaves, William ; Engineer and Inventor ; Vincent Machine Works, Gelderd Road, Leeds, Yorkshire.

One Double-demy Patent Improved Paragon Lithographic Printing Machine, with Marcus Ward and Co.'s Patent Friction Motion attached for driving the same at various speeds, specially constructed to produce chromo-lithography.

The Illustrated London News ; 198, Strand, London.

The Ingram Patent Rotary Printing Machine (W. J. Ingram, Inventor).

Judd & Co. ; Printers and Manufacturing Stationers ; The Phoenix Printing Works, St. Andrew's Hill, Doctors' Commons, London.

A Double Royal single Cylinder Colour Machine with a patent arrangement for the delivery of the printed sheets and extra inking power, especially manufactured for illustrated and high class work. A Treadle Platen Machine for small work with increased facilities for ink distribution, for steam or manual power. Both manufactured for Exhibitors by Hopkinson & Cope, Farringdon Road, London.

Marshall, T. J., & Co.; Paper Machine Makers and Engineers, &c.; *Campbell Works, Gillet St., Kingsland, London.*

Dandy Roll, with improved water-marking. Improved Carriages for the same. Model Revolving Pulp-strainer. Parts of Paper Making Machinery.

Menuel, Eugene; Brass Type Founder and Bookbinder's Tool Manufacturer; 19, *Tysoe St., Clerkenwell, London.*

Cast Brass Type and Letters.

Newsom, Wood, & Dyson; Lithographic and Letterpress Machine Makers and Inventors; *The Leeds Printing Machine Works, Meadow Road, Leeds.*

Demy Lithographic Machine.

Squintani, Carlo Giuseppe, & Co.; Patentees and Manufacturers of Printing Material; 3, *Ludgate Circus Buildings, London*; *Works, Birmingham.*

The "Model" Printing Press, patented for hand, foot, and steam-power for amateurs and printers.

Watson, Henry; Engineer, Inventor, and Manufacturer; *Hgh Bridge Works, Newcastle-on-Tyne.*

Improved new Pulp Strainer as used in the manufacture of paper; fitted with Annandale and Watson's patent apparatus for obtaining the suction required in drawing the pulp through the strainer-plates.

Zuccato & Wolff; Manufacturers of the Papyrograph invented by E. de Zuccato; 19, *Charterhouse St., Holborn Viaduct, London.*

Papyrographic apparatus for multiplying facsimile copies of writings, designs, &c., by means of which 500 copies can be produced in an ordinary copying press. Exhibited in operation.

CLASS 61.—MACHINES, INSTRUMENTS, AND PROCESSES USED IN VARIOUS WORKS.

Coining presses.

Machines for making buttons, pens, pins, envelopes; packing machines, brush-making machines, machines for making cards, capsules; for affixing lead seals to merchandise; for corking bottles, &c.

Tools for, and processes of, making clocks, toys, marqueterie, baskets, &c.

Machines for binding books. Writing machines.

Duggan, Thomas; Brush Manufacturer, Inventor; *Howth View, Glasnevin, Co. Dublin. Works, 2, 3, and 4, Crown Alley, Commercial Buildings, Dublin.*

A new Patent Brush-making Machine, to be worked by hand-power, with samples of work.

Goodall, C., & Son; Playing Card Manufacturers, Envelope Makers and Manufacturing Stationers; *Camden Works, 24, Gt. College St., Camden Town, London.*

Envelope-making Machine, with process of manufacture. (See also Class 10.)

Hewitt, John, & Co.; Manufacturers of Joiners' Tools, Skates, &c.; *Cambridge St. Works, Sheffield.*

Improved Glaziers' Diamonds or Glass Cutters (being instruments for cutting glass, instead of the real diamond used for the purpose).

House, Henry, & Co.; Engineers and Inventors; 31, *Ludgate Hill, London. Works, Birmingham.*

Hand Paint-grinding Mill. (Exhibited in Class 54.)

Kennedy Patent Water Meter Company, Limited; Hydraulic Engineers and Manufacturers (Inventor, the late Thomas Kennedy); *Kilmarnock, Scotland.*

A Positive Water Meter, which actually measures the quantity of water passing through it.

Ladd, John H., & Co.; Machinery Merchants and Manufacturers, and sole Licensees of the Boomer and Boschert Press; 116, *Queen Victoria St., London.*

The Boomer and Boschert Patent Press. (See also Class 52.)

CLASS 62.—CARRIAGES AND WHEELWRIGHT'S WORK.

Separate parts of wheels and carriages: wheels, tires, axles, axle-boxes, ironwork, &c. Springs, and various methods of hanging carriages.

Different systems of harnessing. Breaks.

Wheelwright's work: waggons, tumbrels, drays, and other vehicles for special purposes.

Carriages: public, state, and private carriages; sedan chairs, litters, sledges, &c.; velocipedes.

Aldebert, Isaac; Carriage and Harness Maker, Inventor; 57, 58, 59, *Long Acre, and 233, Oxford St., London.*

A Cee and Under-spring Landau, with Aldebert's patent self-acting head to open and close from the inside. A Cee and Under-spring Barouche. A miniature single Brougham, built entirely with steel instead of iron.

Bagshaw, Francis William; Bicycle Manufacturer, Engineer, and General Machinist, Designer; *Sheffield Bicycle Works, Hill Foot, Sheffield.*

One Steel Spider Bicycle, mounted in gold and silver-plated ornaments. One Steel Racing Spider Bicycle. Three Pairs of Steel Bicycle Tyres.

Bourke, Surgeon-Major, J. H., M.D., care of **Vesey W. Holt & Co.**; 17, *Whitehall Place, London.*

A Hill-Dhooley.

The Bristol Waggon Works Company, Limited; Cart and Waggon Builders, Inventors; *Lawrence Hill, Bristol.*

A Light Spring Tipping Cart, fitted with portable seat board and harvest rails. A Crank Axle Spring Cart, low on the ground, and convenient for loading. A Four-wheel Spring Trolley.

Bush, J., & Co.; Coach Builders, Inventors; 200, *Camberwell Road, London.*

A Patent Safety Dog Cart, designed to prevent the occupants from being thrown out in the event of the horse falling, fitted with automatic balance and adjusting shafts to suit horses of different heights. A Patent Soteria Car with improved seat.

Cockshoot, Joseph, & Co.; Coach Builders, Inventors; *New Bridge Street, Manchester.*

A Park Barouche hung upon coe and under-springs, combining every modern improvement, the minimum of weight and maximum of durability being secured by the introduction of Sir Joseph Whitworth's patent compressed fluid steel. A Square-fronted Brougham hung upon elliptic springs, roomy, easy, and well within the power of one horse. The metal work made of Sir J. Whitworth's patent compressed fluid steel where practicable.

Cooper, James Charles; Carriage Draughtsman; 111, *Long Acre, London.*

Designs for Carriages.

Gold, Henry; Coach Builder, Inventor; 82, *Long Acre, London, and Francis Road, Windsor, Berkshire.*

A Shooting Dog Cart, made convenient to carry luggage, and to evenly balance with one, two, three, or four persons, mounted on three springs, solid flaped axle, and lancewood shafts, being on the fulcrum system to stop knee-motion. The Windsor Station Dog Cart constructed on the same principle, but different in shape and appearance.

Harrison, B., & Son; Coach Builders, Inventors, and Manufacturers to the Trade; 1, *Stanhope St., Euston Road, London.*

A Landau in the wood and iron, not trimmed or painted, showing the quality of workmanship, and also the mechanism of their Patent Self-acting Head Lift, which enables the occupant of the carriage to open or close the hood without rising from the seat.

Hayes, Henry, & Son ; Carriage and Waggon Builders, Inventors ; *Stamford and Peterboro'.*

An Improved Registered Hansom Cab or Brougham on two wheels. Is very roomy, easy of access, light of draught, and perfect in balance, can be driven inside or outside. An Improved Parcels Delivery Van. An Improved One-horse Goods Van. A Dog Cart.

Haynes & Jefferis ; Machinists, Manufacturers, and Inventors ; *Spon St., Coventry, and 56, Queen Victoria St., London.*

Tricycle upon an improved and patented principle. Bicycles of various kinds, all of special make and patented.

Henderson, James, & Co. ; Coach Builders, Inventors ; 60, 62, 64, *North St., Glasgow.*

Side Light Landau for one or pair horses, with patent automatic balance spring-head, which can be opened and closed instantaneously from the inside. Improved Break, fitted with india-rubber blocks, rendering the break noiseless and effective. Improved arrangement for balancing a Whitechapel cart.

Holland & Holland ; Coach Builders ; 254, *Oxford St., London.*

A Four-in-hand Driving Coach.

Holmes, Herbert & Arthur ; Coach and Harness Makers ; 38, *Margaret St., Cavendish Square, London, and at Derby, Lichfield, and Sheffield.*

A Light Pair-horse Barouche on elliptic springs. A Pair-horse Wagonette-omnibus to form either an open or a closed carriage.

Hopton & Sons ; Bent Timber and Steam Wheel Makers ; 67, *George St., Euston Square, London, and at Market Harborough.*

Bent Wood, Wheels, carved panels and Woodwork used in carriage building.

Howes & Sons ; Manufacturers and Inventors ; *City Carriage and Harness Steam Works, Chapel Field, Norwich.*

"Sandringham" Cart, shafts fitted without holes, on the fulcrum principle, with india-rubber bearings, hung on long side springs. Norfolk Shooting or Sporting Cart, fitted with game bars, gun hooks, dasher box, shafts on the fulcrum principle, with india-rubber bearings. Lorne Car, new in design, and very light, hung low, easy of access, especially suitable for ladies. Alexandra Car, very light and low, especially suitable for ladies, shafts without holes on the fulcrum principle, with india-rubber bearings, entirely free from knee motion, hung upon two long side springs fitted with long wings.

Howes, Henry Wm.; Carriage Builder, Inventor ; *Prince of Wales's Road, Norwich.*

A Norfolk Shooting Cart, exceedingly light and of great strength. Built to carry from one to four persons, with ample space inside for luggage. Norfolk Car, designed by Exhibitor for ladies' use, being hung low ; to carry up to four persons, is very light and roomy, with all latest improvements. Alexandra Car. A Ladies Carriage, built low, to carry up to four persons, very light and roomy, with every improvement.

Julian, Henry ; Coach Builder, Inventor ; *Bow St., Bolton, Lancashire.*

An Angular Park Phaeton for one or two horses, constructed so that the hind seat can be entered without the danger of passing over the wheel. A Light Trotting Gig, made so as to suit any horse from 14 to 16 hands high.

King, William ; Coach Builder, Inventor ; *Battlesden Steam Carriage Works, Leighton Buzzard, Bedfordshire, and 233, 235, and 237, Pentonville Road, London.*

The noted " Battlesden Car " built in every size and perfectly free from knee motion. Stanhope Gig built on the most improved principles to obviate knee motion. Wagonette with reversible seat to form Phaeton, with folding step in front and improved lever brake.

Laurie & Marnier, Limited ; Carriage Builders and Inventors ; 313, *Oxford St., London.*

A four-in-hand Drag with patent lock to fore carriage to facilitate turning in much less space than usual. A Sociable Landau with patent opening to the head and patent india-rubber cushioned axles. A single Brougham or Coupé on C and under springs. A Victoria Phaeton on C or under springs.

McNaught & Smith ; Carriage and Harness Makers ; *Worcester, and 45, Park Lane, London.*

A five glass Landau with parallel action automatic head, suspended on C springs. A Countess Sociable on elliptic springs. A single Brougham on C springs. A well appointed Polo Cart, Prince's pattern. All these illustrate the advantages of Whitworth metal, are fitted with india-rubber cushioned axles, are light yet substantial, and adapted for hard service.

Mulliner, Francis ; Coach Builder, Inventor and Manufacturer of the Patent India-rubber Tyres ; 59, *Great Charlotte Street, Liverpool, and 56, Brook Street, Bond Street, London.*

A canoe-shaped Landau, with self-acting head and patent indiarubber tyres to wheels fixed on a new principle, noiseless, durable, and efficient.

Mulliner, Henry ; Carriage and Harness Maker, Inventor ; *Northampton and Leamington Spa.*

A Four Horse Coach, and harness for same. A Lady's Driving Phaeton. An improved Light Two-wheel Dog Cart,

as built for France and America. An elegant little Pony Carriage. An Invalid Carriage. Designs of improved Carriages.

Musgrave & Co., Limited; Ironfounders and Manufacturers; *Ann St. Iron Works, and Cromac Foundry, Belfast, and 97, New Bond St., London.*

Full sized Stalls and Box of Musgrave's Patent Stable Fittings. Models showing the system of ventilation, drainage, &c., and the various fittings necessary for harness rooms, &c. Musgrave's Patent Cowhouse Fittings. (*See also Class 27.*)

Offord, Joseph; Coach Builder, Inventor, and Patentee; *79, Wells St., Oxford St., and 28, Brook St., Bond St., and 92, Gloucester Road, South Kensington, London.*

Canoe-shaped Patent Hooded Landau. Square-shaped Patent Hooded Landau. Cee and Under-spring Victoria. Miniature Brougham. All trimmed with patent embossed morocco trimmings instead of laces. The Landau fitted with patent head and step covered with india-rubber.

Peters, Thomas, & Sons; Coach Builders; *Park St., Grosvenor Square, and Upper George St., Portman Square, London.*

Private Carriages, for town or country use.

Plowright, James; Bicycle Manufacturer, Inventor; *96, High St., King's Lynn, Norfolk.*

Bicycles fitted with a newly invented dust-proof anti-friction roller-bearing that will wear for years without any oscillation or side shake.

Roberts, John, & Sons; Carriage Manufacturers; *West of England Carriage Works, Bridgewater, Somerset.*

One two-wheel Carriage of light and strong construction, with good and comfortable sitting room, with ease of horse and driver secured. One Four-wheel Carriage, light, strong, and useful, suitable for any climate.

Roberts, John; Carriage Builder; *6, Cavendish St., Stretford Road, Manchester.*

A square-fronted Brougham, with all latest improvements. A Parisian Cob Phaeton on elliptic springs, silver-plated nave hoops, &c.

Rock & Hawkins; Coach Builders, Inventors; *Hastings, and 24, Baker St., London.*

A medium size Canoe Landau, with patent automatic head, with solid steel head joints adapted as springs for raising the head, painted in shades of brown, lined with brown morocco and cloth. A Hastings Landau, a cheap light one-horse carriage, to be opened or closed at pleasure, and capable of carrying four persons inside, painted green and yellow, and lined with green cloth.

The St. Pancras Iron Work Company ; Engineers and Iron Founders, Inventors ; *St. Pancras Road, London.*

Patent Fittings for stables, harness rooms, &c., shown in full size stalls and loose box, &c.

The Surrey Machinist Co. ; Bicycle Manufacturers ; Patentees of the Invincible Safety Bicycle ; 85 and 87, *Blackman St., Boro', London.*

The Invincible Safety Bicycle. The improvements obtained in this invention render accidents almost impossible. Racing and Roadster Bicycles fitted with exhibitors' patent lever brake to front wheel, hollow steel backbones and rims, fluted front and hind forks, lock nut tension wheels with 200 spokes, finished in paint, burnished or nickel plated.

Taylor, Walter ; Furniture Remover and Warehouseman, the Inventor ; *Taylor's Furniture Depository, Ranelagh Road, Pimlico, London. (Agent in Paris, Hewetson, 16, Rue Miromenil.)*

Improved Van for the removal of furniture, pictures, glass and all other fragile goods from house to house without the expense of packing.

Thompson, Charles ; Manufacturer of Perambulators, Inventor ; 33, 35, 37, *Newington Butts, London.*

A Perambulator with Patent Canopy. A Circular Back Perambulator with Hood complete.

Thorn, Charles ; Carriage and Harness Manufacturer ; *Norfolk Carriage and Harness Works, Norwich.*

Several highly finished Carriages for pleasure and sporting purposes, fitted with various patents and improvements. Coloured Drawings of carriages.

Wadsworth, Robert ; Wheelwright, Inventor ; 29, *Westgate, Halifax, Yorkshire.*

Improved Wheels and Axles for every description of road conveyance.

Ward, John ; *Saville House, 5 and 6, Leicester Square, London.*

A Three-wheel Brighton Chair upon cee springs, and patent india-rubber braces. A Round Panel Bath Chair. Children's Perambulators for out-door use. (*See also Class 18.*)

Windover, Charles Sandford ; Carriage Builder, Inventor ; 32 and 33, *Long Acre, London, and at Huntingdon and Manchester.*

Windover's Bijou Victoria, with removable driver's seat and hind rumble, fitted with enamelled leather head and patent canopy, also luncheon basket, the whole of the changes made in a few minutes, without intricate fittings, painted blue, fine lined gold, lined blue, hard grain morocco. A Headed Mail Phaeton, light, strong, and durable, for one or a pair of horses. A Four Wheel Dog Cart Phaeton, fitted to carry passengers, dogs, or merchandise, suitable for hilly districts, varnished in

bare wood. Prince Erdody Cart, painted black, fine lined gold. Huntingdon Car, built in three sizes, suitable for ladies, varnished in bare wood.

Wyburn & Co.; Coach Builders by special appointment to Her Majesty and H.R.H. the Prince of Wales; 121, *Long Acre, London.*
Carriages.

CLASS 63.—HARNESS AND SADDLERY.

Various articles used for carriage horses and saddle horses : pack-saddles, saddles, bridles and harness for saddle horses, beasts of burden, and draught horses ; stirrups, spurs, whips.

Allsopp, Charles William, & Co.; Spur Manufacturers, Inventors; 47, *Pool St., Walsall.*

Spurs and Boxes of all descriptions for hunting, racing, and military use.

Ashford, W. & G., & Winder ; Saddlers' Ironmongers, Curriers, &c. ; *Essex St. and Kent St., Birmingham.*

Saddlers' Leather; Ladies' Hunting, Racing, and Military Saddles; Bridles, Martingales, Breastplates, Harness, Whips, Purses, Pocket-books, Cigar Cases, Portmanteaus, Chimney-sweeping Machines, Stirrups, Bits, Spurs, and Leathers, Rug or Travelling Straps, Garters, Leather-back Horse Brushes, Head Collars, and sundry Stable Appointments, Gun Cases, Cartridge Magazine Bags and Belts, Dog-starter Collars, &c.

Bliss, William, & Co. ; Saddlers and Saddlers' Ironmongers ; 13 and 15, *Sun St., Finsbury, London.*

Gentlemen's and Ladies' Saddles. Harness. Horse Clothing, Waterproof Goods. Bridle Work. Bits. Stirrup Irons. Harness Furniture, &c.

Bown, William ; Manufacturer of Horse Clipping Machines; 308, *Summer Lane, Birmingham.* (*Agent in Paris, T. Givry, 56, Boulevard Sebastopol.*)

Patent "Newmarket" Horse Clipper.

Christie, William ; Manufacturer of Saddlery, Saddletrees, &c. ; Inventor of Stirrup Leather Bars; 35, *Station Street, Walsall, Staffordshire.*

A plain Lady's Saddle. A quilted Lady's Saddle, with white doeskin insertions. English Regulation Cavalry Officer's Saddle, with Bridle, &c., complete. A Union Somerset Saddle, quilted. Pioneer's Saddle, with shifting panel, waterproof; this saddle with its panel can be made to do duty at night as a palliasee. Two English Hunting Saddles, different patterns. A quilted Saddle. An English Steeplechase Saddle, 6 lbs. A New Zealand Steeplechase Saddle. A quilted Pilch, for boy or girl, with reversible safe and leaping head. English Race Saddle. Saddletrees, Stirrup Leather Bars, and Saddlery.

Clark, William; Clipper Manufacturer, Inventor; 232, *Oxford Street, London.*

An ordinary Horse Clipper, worked with two hands. The same with self-adjusting springs on the top plates. Horse Clippers for legs and heads, worked with one hand. Sheep-shears worked with one hand. Sheep-shears worked with two hands. Hoplemuroma Ointment for horses' diseased feet. Model apparatus for shearing sheep and clipping.

Davis & Wilson; Whip Manufacturers; 37, 37½, and 38, *Sun St. West, Birmingham.*

Whips, Whip Ornaments and Materials. Processional Canes for African Chiefs.

Hawkins, John, & Co.; *Station St., Walsall, Staffordshire.*

Saddlers' and Harnessmakers' Ironmongery: Military Bridle, Bits, Harness, Spurs, Stirrups, Chains, Buckles, Cavalry and Artillery ironwork fittings of every kind.

Holmes, Charles; Coach and Harness Maker; *London Road, Derby.*

A set of pair-horse driving Harness. A set of single-horse driving Harness.

Holmes, George Edward; Coach and Harness Maker; *London Road, Derby.*

Drawings of Carriages. Specimens of Frost Chisels and Studs for shoeing horses in frosty weather, and the requisite tools for preparing the horseshoes. (*See also Class 62.*)

Holmes, Herbert M., jun.; Coach and Harness Maker; *London Road, Derby.*

Riding Saddles and Bridles for ladies and gentlemen.

Hopton, Thomas W.; Manufacturer of Bent Timber and Carriage Wheels by Machinery; *Collingwood Works, Broadwall, London.*

Bent Timber and Wheels used in carriage building. Carriage Seats of bent wood, combining great strength and lightness with simplicity.

Latchford & Willson; Bridle-Bit, Stirrup, and Spur Makers; 11, *Upper St. Martin's Lane, London.*

Bridle and Harness Bits. Stirrups. Spurs.

Lennan & Son; Saddle, Harness, and Horse Clothing Manufacturers, Inventors; 29 and 30, *Dawson St., Dublin.*

Pair-horse and single Harness, brass and silver mounted. Inlaid white doeskin Side-saddle. Plain Side-saddle. An all over white doeskin 6 lb. Steeplechase Saddle. A 2 lb. Racing Saddle. Two Pigskin Gentlemen's Hunting Saddles. Safety Stirrups for Ladies and Gentlemen. Bridles of various patterns, &c.

Martin, Robert; Horse Clipping Machine and Mechanical Tool Manufacturer; *Old Charlton, Kent.*

Horse Clipping Machines, and various parts of the same. Circular Cutters used in their manufacture. Fluted Drills and Rymers, varying in size $\frac{1}{16}$ of an inch, with plug and ring gauges to correspond.

Maxwell, Henry, & Co.; Spur Makers; 161, *Piccadilly, London.*

Military Spurs. Hunting, Racing, and Plain Riding Spurs, Ladies' Spurs. Spur Sockets.

Peirce, Williams Adams; Harness, Saddle, and Military Accountrement Maker; 6, *Bridge Road, Woolstone, Southampton.*

Specimens of newly invented and patented moveable Buckle. Harness and Bridles, new and used, fitted with the same. The Paris Exhibition Harness Pad, and other new designs in Harness and Saddlery. Saddlery, Harness Furniture, Stable Requisites, Polish, Whips, &c.

Pollock, Sydney; Inventor and Patentee; 11, *Cambridge Terrace, St. Stephen's Road, Shepherd's Bush, London.*

Patent Apparatus for stopping runaway and unmanageable horses instantly.

Shammon, William; Manufacturer of Whips, Bits, Stirrups, Bridles, Spurs, Saddles, and Harness; *Moseley St. and Birchall St., Birmingham.*

Driving Whips, Jockey Whips, Hunting and Dog Whips, Ladies' Riding Whips, Buggy or American Trotting Whips. Whip Thongs. Bridles of every description. Straps. Stirrup leathers. Spurs of every description.

Swaine & Adeney; Whip Manufacturers; 185, *Piccadilly, London.* (*Agent in Paris, J. H. Forster, 2, Rue Tronson-Doucoudray.*)

Riding, Driving, Hunting, Postilion, and Dog Whips. Whip Thongs. Hunting and Mail-coach Horns. Sporting Apparatus. Walking Sticks and Riding Canes.

Wilson (Newton) & Co.; Sewing Machine, Horse-grooming, Sheep-shearing Machine Manufacturers; 144, *High Holborn, London.* *Works, St. George's Foundry, Birmingham.*

Horse Grooming Machinery, Horse Clipping Machines, Sheep Shearing Machines, by hand, water, or steam power. Hand Horse Clippers. (*See also Class 58.*)

CLASS 64.—RAILWAY APPARATUS.

Separate parts : springs, buffers, breaks.

Permanent way : rails, chairs, crossings, switches, fish plates, turn-tables ; buffers, feeding cranes, and tanks ; optical and acoustic signals.

Permanent way for tramways.

Rolling stock : waggons for passengers, for carrying earth, goods, cattle ; locomotives, tenders.

Self-moving carriages ; locomotives for roads.

Special tools and machines for the maintenance, repair, and construction of railways.

Apparatus for inclined planes and self-acting planes ; apparatus and engines for atmospheric railways ; models of engines, of systems of traction, of apparatus appertaining to railways.

Models, plans, and drawings of platforms, stations, and engine houses, and other buildings necessary for the working of railways.

Aldred & Spielmann ; Engineers, Inventors ; 40 and 42, *Queen Victoria Street, London.*

Patent reversible double rail for permanent way for steam and other tramways. (Exhibited in Messrs. Hayward, Tyler, and Co.'s space.)

Anderson, Chris. ; Manufacturer, Inventor ; *Hunslet Shed, Hunslet, Leeds.*

Patent Continuous Railway Brake, applicable to all the carriages, locomotive, and van composing a train. 1. Is automatic, and in case of the train parting will apply the full force of brake to every wheel in the train. 2. Requires no maintaining power whatever, as it utilizes the momentum of a train to retard or stop it.

Barnes, Frederic ; Farmer, Inventor ; *Westwood Grange, Tylehurst, Reading, Berks.*

Means or Apparatus for automatically connecting and disconnecting railway or tramway rolling stock.

Black, Hawthorn, & Co. ; Locomotive, Marine, and Stationary Engine Builders and Designers ; *Gateshead-on-Tyne.*

Small four-wheeled coupled, outside cylinder, saddle Tank Locomotive of light weight complete in all its parts for railway 3 feet gauge, cylinders 5 inches diameter, stroke 10 inches, wheels 1 foot 8 inches diameter, and wheel base 3 feet. Copper fire-box and brass tubes ; working pressure, 135 lb. per square inch, or 10 atmospheres. French measurement weight in working order does not exceed $3\frac{1}{2}$ tons ; will pass round curves of 20 feet radius.

Edge, Charles A. ; 21, *Bennett's Hill, Birmingham.*

Patent Grooveless Tramway Rails and Carriage.

Embleton, Mackenzie, & Co.; Engineers, Shipbuilders' Tools and Machine Makers, Inventors; *Yorkshire Foundry, Black Bull Street, Hunslet, Leeds, Yorkshire.*

Shaping Machine with two tables. Screw-cutting Lathe. Tyre boring, turning, and centre-turning and boring Lathe. Screwing and tapping Machine, to make a full thread at one cut. Small Radial Drilling Machine.

The Fairlie Engine Co.; Engineers, Inventors, and Manufacturers; *Palace Chambers, Victoria Street, Westminster, London. Works, Bristol.*

The Fairlie Engine; the peculiarity of this Engine is that the whole of the wheels are grouped in two sets or bogies, each bogie swivelling on its own centre, the boiler being carried in a frame or cradle resting on the centres of these bogies; by this arrangement the Engine is free to adapt itself to any curve, no matter how sharp, without increase of side friction on the rails. The Locomotive exhibited is on this principle, but is for light ordinary traffic. In those for heavy traffic steam is applied to both bogies, and the boiler is made double as shown in the working model; by this means an engine of great power is obtained, capable of working heavy trains up gradients as steep as 1 in 20. All the wheels being coupled, the whole weight of the Engine, including fuel and water, is available for adhesion. This system of Engine is applicable to any gauge, but is particularly adapted for railways with gauges from 2 feet to 3 feet 6 inches.

Fox, Walker, & Co.; Locomotive Builders; *Atlas Engine Works, Bristol.*

Tank Locomotive, fitted with six wheels, adapted for Railways and other purposes. Steam Tramway Locomotive.

Gage, Thomas; Fitter, Manufacturer, and Inventor; 53, *Tindal St., Bishop's Road, North Brixton, London.*

Improved Danger Signals, Hand Lights, and Rockets to be used at Sea, Fog Signals, &c., made thoroughly waterproof, compact in size, and certain of explosion with a loud report; perfectly safe, as they do not contain mercury or phosphorus. An Improved Rocket Tube for firing Rockets by friction or otherwise without the aid of fire or light.

Howarth, Richard; Engineer, Inventor; 26, *Virginia St., Southport, Lancashire.*

Working Models of Railway Carriages, with R. Howarth's patent mechanical appliance for lighting and signalling to and from all parts of a train, and for instantly forming a corridor passage on one or both sides of the whole length of a train.

Hughes' Locomotive & Tramway Engine Co., Limited; Mechanical Engineers, Manufacturers, and Inventors; *Falcon Works, Loughborough.*

Locomotive Steam Engine for Tramways and Railways on common roads and in streets, being adapted to work without noise or showing steam or smoke, and regulated so that a given speed cannot be exceeded.

Landore-Siemens Steel Company, Limited; Steel Manufacturers; 3, Westminster Chambers, London. Works, Landore, near Swansea, South Wales.

Specimens of Steel Rails, Locomotive and Wagon Tyres and Axles, Steel Plates, Angles, Beams for Shipbuilding, and Plates. Weldless Rings for Boilers and Weldless Boiler Tubes. Engineers' Forging, &c. Marine and Locomotive Forgings. Cast and forged shell, &c. Sundry specimens of Iron and Steel manufactured direct from the Ore.

The London, Brighton, & South Coast Railway Company; Locomotive and Carriage Works, Brighton.

A six-wheeled coupled Passenger Tank Engine for suburban and metropolitan traffic. A set of Slide Valve Motion. A Piston, Piston Rod, and Connecting Rod complete. A Feed Pump complete. A set of Guide Plates or Ramps for re-railing railway carriages and waggons. A model of the Pullman Palace Cars as running in the express trains of the Company. A model of Ship's Cabin Stairs as used in the Company's steamers. Photographs of the Company's Steamers, Locomotive Engines and Rolling Stock. A photograph of the Company's new Royal Saloon Carriage.

Mac Lellan, P. & W.; Manufacturers of Permanent Way and Railway Rolling Stock Iron Work, Inventors; Clutha Iron Works, Glasgow.

Mac Lellan & Smith's Patent Elastic Embossed Sleepers, an improvement in the permanent way of railways, combining strength, elasticity, durability, lightness, compact storage, easy and expeditious laying, with moderate first cost and maintenance. Sleepers are made from iron and steel plates, and are embossed, punched, and completely finished at one operation by special machinery, and thus are perfectly interchangeable, and are made for any section of rail, the rail being secured by clips and bolts. Have given excellent results on Indian railways.

Martin, William; Fustian Cutter, Inventor; 245, Oldham Road, Manchester.

Designs on Fustians. Self-rising Sluice Gate. Improved Bearings. Sewage Tank for clearing sewage. Improved Water-closet. Broom-handle Ferrules. Apparatus for regulating the heat of hot or other houses. Model of Gun-boat for Carrying Submarine guns. Reversible Perambulator or Child's carriage.

Punshon, Robert; Engineer, Inventor; St. Michael's Place, Brighton.

Suspending Automatic Railway Chair, Model of Nut Lock or Fastener, Cotton Gunpowder for propelling purposes. Improvements in the Purification of Sewage, and in Apparatus for the same.

Rownson, Drew, & Co.; Engineers and Patentees; 225, Upper Thames St.; 113, Queen Victoria St.; Paul's Wharf and Leopold Iron Wharf, London.

Cyclops Patent Portable Forges, exhaust and pressure blower. Power Fan. Hand Blower. Patent Indicating Signals for railways and mines. Scourfield's Patent Railway Carriage Handles. Keystone Patent Valves, for water, gas, and steam.

Sarby & Farmer; Railway Signalling Engineers, Inventors, Proprietors, and Manufacturers; *Patent Railway Signal Works, Kilburn, London.*

A full size apparatus illustrating the mechanical union of the interlocking and block systems. A full size Facing Point Lock. A full size electric slot signal apparatus. A model illustrating a contrivance for interlocking signals with the points of outlying sidings; other safety appliances.

Sharp, Stewart, & Co., Limited; Engineers, Designers, and Manufacturers; *Atlas Works, Manchester.* (*Agent in Paris, H. Chapman, 11, R. Louis le Grand.*)

Locomotive Engine for fast Passenger Trains. (*See also Class 55.*)

Smith's Vacuum Brake Co., Limited; Manufacturers and Inventors of Continuous Railway Brakes; 69, *Upper Thames Street, London.*

Simple Ejector. Double Ejector. Starting Valve. Release Valve. Iron Cylinder. Rubber Cylinder with Iron Head for air chambers. Hose and Couplings. India-rubber Hose. Pipes, Levers, and other Connections.

Stewart, Charles, MEMBRE DE L'ACADÉMIE NATIONALE À PARIS; 50, *Colebrooke Row, London.*—*Agents in London, Messrs. Heinke and Davis, 2, Brabant Court, Fenchurch St.*

Apparatus for communicating between the passengers, guards, and drivers of railway trains, known as "Stewart's Patent Flag Signal."

CLASS 65.—TELEGRAPHIC APPARATUS FOR PROCESSES.

Appliances for telegraphs based on the transmission of light, sound, &c.

Apparatus for the electric telegraph, posts, wires, stretchers, &c.

Batteries and apparatus for sending and receiving messages.

Bells and electric signals.

Telegraphs for military purposes. Objects appertaining to telegraphy: lightning conductors, commutators, prepared paper for printing messages, and for sending autographic messages.

Special apparatus for pneumatic telegraphy.

Bell, Alexander Graham; Inventor; 115, *Cannon St., London.*

Articulating or speaking Telephones, with bell-calls and other telephonic apparatus. (*Exhibited in Class 15.*)

British Telegraph Manufactory, Limited; 374, *Euston Road, London.* (*Agent in Paris, J. Aylmer, 4, Rue de Naples.*)

Telegraphic and Electrical Apparatus: Wheatstone's A B C Telegraph; Military A B C Telegraph; A B C Type Printer;

A B C Large Dial Indicator ; Magnetic Counter ; Translating Morse ; Polarized Morse and Polarized Relay. Rheostat used in Duplex working. Commutators. Double-current Keys. Wheatstone's Magneto-electric Exploders and Fuses, Magneto-electric Bell-pulls, with tell-tale bell. Accumulators. Wheatstone's Duplex Automatic Instruments. Resistance Bridge. Morse Sounder, with needle. Magneto-electric Pull for mines, with single stroke bell. Resistance Boxes. Electric Fire Alarm. Barrel-Commutator. Testing Keys. Lightning Guards. Wheatstone Rheostat. Wheatstone Relay.

Homfray & Co. ; Signal Manufacturers, Inventors and Patentees ; 7, *Great Winchester Street Buildings, Old Broad Street, London.* (*Agent in Paris, J. Aylmer, 4, Rue de Naples.*)

Pneumatic pipes for the transmission of small articles in houses. Pneumatic telegraph for signalling the working of engines or for steering of ships. Signal apparatus of all kinds. (Exhibited in Class 67.)

Jamieson, Andrew ; Electrical Engineer, Inventor ; *Eastern Telegraph Company, Limited, 66, Old Broad St., City, London.* (*Agent in Paris, J. A. Aylmer, 4, Rue de Naples.*)

A Patent Self-relieving Grapnel for raising submarine cables and torpedo lines. Saunders and Jamieson's Patent Anti-Teredo Preserver for submarine cables. A combined Key and Switch, with improved contacts for submarine telegraph signalling. A Lightning Guard, for submarine cables and telegraph instruments.

Sanderson & Co. ; Lightning Conductor Manufacturers ; 44, *Essex Street, Strand, London.* *Works, Huddersfield.*

Patent Solid Copper Tape Lightning Conductors, manufactured in continuous lengths, and of various dimensions.

Siemens Brothers ; Telegraph Engineers and Inventors ; 12, *Queen Anne's Gate, Westminster, London ; Works, Charlton Pier, Woolwich, Kent.*

Electrical apparatus.

The Telegraph Construction and Maintenance Company, Limited ; Submarine Telegraph Cable Manufacturers and Inventors ; 38, *Old Broad Street, City, London.*

Submarine Telegraph Cables of different types suitable to depths varying from shoal water to 3,000 fathoms.

Varley, S. Alfred ; Telegraph Engineer, Inventor ; *Hatfield, Hertfordshire.*

Undemagnetizable Needle Telegraph Coil, adopted by the Postal Telegraph Department of the English Government. Dynamo-electric Machine. Electromotors.

Zimdars, C. E. ; Manufacturer of Pneumatic Signal Apparatus, Inventor ; 327, *Gray's Inn Road, London.*

Pneumatic Signal and Communication Apparatus, consisting of Bells, Indicators, and Despatch Tubes.

**CLASS 66.—APPARATUS AND PROCESSES OF CIVIL ENGINEERING,
PUBLIC WORKS, AND ARCHITECTURE.**

Building materials: stone, wood, metals; ornamental stone; lime, mortar, cements, artificial stone and concrete; roofing tiles, bricks, paving tiles; slates, pasteboard and felt for roofing.

Apparatus and products of processes used in the preservation of wood. Apparatus and instruments for testing building materials.

Apparatus for earthworks, excavators. Apparatus used in building yards. Tools and processes used by stone-dressers and cutters, masons, carpenters, tilers, blacksmiths, joiners, glaziers, plumbers, house painters, &c.

Locksmiths' work; locks, padlocks, railings, balconies, bannisters, &c.

Apparatus and engines used in making foundations; pile-drivers and pile work, screw piles, pumps, pneumatic apparatus, dredging machines, &c. Apparatus used in hydraulic works connected with harbours, canals, rivers.

Apparatus used in the supply of water and of gas. Apparatus used in the maintenance of roads, plantations, and public walks.

Models, plans, and drawings of public works; bridges, viaducts, aqueducts, drains, canal bridges, dams, weirs, &c.

Lighthouses. Public buildings for special purposes; buildings for civil purposes; mansions and houses for letting; workmen's towns, industrial dwellings, &c.

The Abernant Ironworks & Collieries Company; Dinas Silicia Fire-brick Manufacturers; 18, *New Bridge St., London. Works, Glyn Neath, Glamorganshire, South Wales.*

Dinas Silica Fire-bricks, Clays, Cement, and Sand.

Anderson, David, & Son; Patent Felt Manufacturers, Inventors of Improvements; *Lagan Felt Works, Belfast, Ireland, and 10, London St., Fenchurch St., London. (Agent in Paris, A. Ducroquet, & Co., Rue de Clery, 42.)*

Patent Prepared Asphaltum Roofing and Flooring Felt, coated and sanded, for covering roofs and floors. Patent-Asphalte Roofing Felt, not coated, for covering all descriptions of erections. Patent Slater's Felt for lining roofs under slate, zinc, iron, &c. Patent Inodorous Felt for lining damp walls. Patent Ship Sheathing Felt for covering ships' bottom under copper. Patent Non-conducting Hair Felt for covering boilers, steam pipes, &c., effecting a saving of 25 per cent.

Bainbridge & Crimson; Designers and Manufacturers of General and Ornamental Ironwork; *Oakwellgate, Gateshead-on-Tyne, Durham.*

A pair of Ornamental Wrought-Iron Entrance Gates made for stone pillars, 11 feet opening.

Baxter, Robert Cordy; Fellow of the Royal Institute of British Architects; *Hethersett, Reigate, Surrey. Chairman of the Sub-Wealden Gypsum Company, Limited, Mountfield, near Battle, Sussex.*

Specimens of Gypsum from the mine. Wrought and Polished Specimens. Sample after baking (Plaster of Paris). Models and Casts executed in the same. Specimens of Parian Cement.

Bessbrook Granite Company (THOS. M. H. FLYNN, Manager); *Bessbrook, Ireland.*

A Polished Granite Obelisk (grey) from their Derramore Quarries. A Polished Granite Baptismal Font (blue) and a Polished Granite Column with Monumental Urn (blue) from their "Bessbrook Special" Quarries.

Bethell, John, & Co.; Wood Creosoters; 38, *King William St., London, and at Greenwich, Grimsby, Boston, Bawtry, Hitchin, Dublin, Liverpool, Namur, Antwerp, Ghent, Vireux, &c. (Agent in Paris, M. Poupillier, 24, Rue de Lisbonne.)*

Samples of Creosoted Timber, showing how creosoting has preserved timber by land and sea. Also Drawings and Models explaining the creosoting process.

Boyle, Robert, & Son, Ventilating and Sanitary Engineers; Inventors, Patentees, and Manufacturers; 100, *Mitchell St., Glasgow; and Mansion House Buildings, London.*

Boyle's Patent Self-acting Air Pump Ventilators for the ventilation of churches, schools, public buildings, mansions, factories, stables, sewers, ships, &c. They effectually and continuously extract the foul air, have no mechanical motion, and are entirely free from down draughts or currents. Model of Boyle's Patent Apparatus for application to boiler furnaces of steam ships or vessels for ventilating the vessels, preventing smoke, cooling the stoke-hole, and economising fuel. Patent Chimney Cowl for the prevention of a blow down in chimnies. Patent Smoke Extractor for assisting up-draught in bad going chimnies.

Brooke, Edward, & Sons; Sanitary Tube and Fire-brick Manufacturers; *Fieldhouse Fireclay Works, Huddersfield.*

Sanitary Tubes, from 2 inches to 42 inches in diameter. Fire Bricks and Quarries for standing great heats in glass, copper, and iron furnaces. Glass, House, Pot Clays and Spelter Clays. Patent Sewer Ventilators. White, glazed, and coloured building Bricks. Gas Retorts, &c.

Bullivant, Thomas; Inventor; 104, *Ledbury Rd., Bayswater, London.*

Model of Air-tight, Noiseless Sliding Sash Window, for the prevention of accidents arising from cleaning windows from the outside, and the exclusion of dust, draughts, and moisture. Patented.

Burgh Castle Portland Cement Company, Limited; Portland Cement and Brick Manufacturers; *Burgh Castle, Great Yarmouth, Norfolk.*

Portland Cement in its various stages of manufacture. Test Blocks which have borne a tensile strain of 1,120 lbs. on one and a half square inches after seven days' immersion in water. White Suffolk Bricks.

Campbell, Hugh, & Son; *Newry Granite Polishing Works, Moor Quarries, Newry, Ireland.*

A Polished Grey Granite Monument, 9 feet high and 2 feet 3 inches square at base.

Candy & Co.; *Patent Brick, Tile, and Pipe Works, Chudleigh Rd. Station, Newton Abbot, Devon.*

Stoneware Bricks for Architectural use, Stoneware Bricks and Blocks for Paving and Engineering Works. Stoneware and Vitreous Clays. Stoneware Roofing and Paving Tiles. Building Bricks in white, buff, and red. Fire Bricks and Fire-clay. Potters' Clay and Pipe-clay. Sanitary ware. Vitreous Clays for telegraph insulators and for the manufacture of vessels for domestic and chemical purposes.

Chatwood, Samuel; Engineer, Inventor; 120, *Cannon St., London*; *Works, Lancashire Safe and Lock Works, Bolton.*

Dextuple Patent Compound Steel Bank Room, with central Hydraulic Steel Safe. Patent "Invincible" intersected Steel Bank Safe. An assortment of Patent Fire and Burglar Proof Safes. Patent "Invincible" Combination Bank Lock. An assortment of Patent "Invincible" Locks.

Cheavin, George; Water Filter Manufacturer; *Wide Bargate Filter Works, Boston, Lincolnshire. (Agents in Paris, Decker and Mot, 168 and 176, Boulevard de la Villette.)*

Improved Patent Self-cleaning Rapid Water Filters, in hard stoneware and in terra-cotta. Ironstone china richly decorated. Improved Self-acting Rapid Cistern Filter in wrought galvanized iron. New Refrigerator Filter. Water Bottles and Coolers.

Chubb & Son; Inventors, Lock and Safe Makers; 128, *Queen Victoria St., London. Works, London and Wolverhampton.*

Patent Detector Locks, for all purposes. Cash Boxes, Paper Boxes, Writing Boxes, and Key Boxes. Specimens of richly ornamented Locks and Keys. Patent Fire-resisting and Thief-resisting Wrought-iron Safes, for books, cash, plate, and jewels. A hard Steel-plated Treasure Safe of extraordinary strength for bankers, combining three distinct safes one inside the other. (Exhibit also in Classes 24 and 25.)

Clark & Company; Engineers, Inventors, and Manufacturers; *Rathbone Place, Oxford St., London. Paris, 40, Rue Notre Dame des Victoires.*

Ornamental Shop Fronts constructed in brass and cast iron, fitted with Clark's Patent Noiseless Self-coiling Steel Shutters.

Cliff, Joseph, & Sons ; Manufacturers and Inventors ; Fire-clay Works, Wortley, Leeds.

Series of Fire-clay Retorts, made by our patent machine. Drawings of a Market, Railway Station, Stable, Bathing Room, illustrating the use of Glazed Bricks ; Drain Pipes of all sizes and kinds, Traps, &c. Glazed Bricks and Tiles, white and in set colours ; also in various colours and patterns. Sink Stones, Chimney Tops, Garden Edgings, and General Terracotta Plumbago Crucibles for the melting of metals. Patterns of Fire-bricks and Lumps of all kinds.

Collinson and Lock ; Cabinet Makers, Decorators, and Upholsterers ; 109, Fleet St., London ; Works, Pear Tree Court, Clerkenwell, London.

A country house in the style of the 17th century, the inside fitted up and furnished complete. (See also Class 18.)

Colthurst, Symons, & Co. ; Brick and Tile and Pipe Manufacturers, Inventors ; Bridgwater.

Patent Roman Tiles. From their close fitting they will not shift in rough weather, and are warmer in winter and cooler in summer than any other description of Tile or Slate roof. The saving of timber is considerable, as the tiles are battened 13½ inches. Patent Ridge Tile, formed to match the tile above mentioned. The roll of tile is carried continuously over the ridge of the building, which gives a similarity of design. It does not require any mortar on the ridge. Patent Scouring Bricks (Bath Bricks) used for cleaning brasses and other metals, also furniture, and for many other purposes. Samples of other goods.

Cubitt, William, & Co. ; Builders ; 258, Gray's Inn Road, London.

An English House of Timber framework, in the style prevalent during the reigns of Queen Elizabeth and King James the First. The spaces between the timber supports are filled in with plaster panels, and an ornamental effect is produced by the insertion of various devices in wood embedded in the plaster. The carving is in all cases wrought in the solid timber. The moulded window frames are filled in with casements of light lead work, glazed in small panes called "quarries," arranged to form geometrical patterns ; this is effected by inserting the glass into a light leaden framework. The roof is covered with red tiles termed "Plain Tiles." The method of construction here illustrated was practised in England for domestic work from the 15th to the 17th century, and is known as "Half-timber Work." The building has been designed and partly adapted from ancient examples by Gilbert R. Redgrave, Esq., the Architect of the Royal British Commission, and has been erected by Messrs. William Cubitt & Co., and placed by them at the disposal of H.R.H. the Prince of Wales for the use of the Commission. Entrance Gates of wrought and hammered iron, made for the Right Hon. Lord Crewe, and intended for one of the approaches at Crewe Hall, Cheshire. The gate piers are models of those executed in stone. Designed by Edward M. Barry, Esq., R.A.

The Cwmorthin Slate Co., Limited; Slate Quarry Proprietors; 4, Cloak Lane, London, and Portmadoc, North Wales.

Roofing Slates.

de Michele, Vitale Domenico; Civil Engineer and Inventor; 5, Westminster Chambers, London.

Apparatus for testing Portland and other Cement (Michele's Patent). Apparatus for testing Wire and Paper (Carrington's Patent) on the Pendulum Weight system.

Doulton & Co.; Potters; High St., Lambeth, London. (Paris, 6, Rue de Paradis Poissonnière.)

Plumbago Crucibles. Fire-standing goods. Blue Metallic Wares. A house built entirely of brickwork and terra-cotta, with decorations in Doulton ware, consisting of bosses, reveal courses to windows, soffit blocks, &c. This house forms a part of the International Façade.

Doulton, H., & Co.; Potters; 63, High St., Lambeth, London. Works, Smethwick and Rowley Regis, Staffordshire; St. Helens, Lancashire. (Paris, 6 Rue de Paradis Poissonnière.)

Sanitary Stoneware and Queen's Ware. Sanitary appliances in action. Architectural and Horticultural Terra-cotta. (See also Class 20.)

Doulton & Watts; Potters; Lambeth Pottery, London. (Paris, 6, Rue de Paradis Poissonnière.)

Stoneware used in the manufacture of chemicals. Stoneware for general uses, filters, &c. (See also Class 20.)

The Dunball Steam Pottery Tile & Brick Company; Brick, Tile, and Pottery Manufacturers and Inventors; Dunball, Bridgewater, Somerset.

Grey and red perforated and solid Building Bricks. Oven and ornamental Bricks. Various kinds of roofing Tiles, grey red, dun, and glazed. Ridge, flooring, malt-kiln, and oven Tiles. Red ware Pottery. Land draining and socket Pipes for sanitary and horticultural purposes.

Dunnachie, James; Fire-clay Manufacturer; 2, West Regent St., Glasgow. Works, Glenboig Star Fire-brick Works, near Coatbridge, Scotland.

Fire-bricks as used in the Siemens' furnace, forge, rolling mill, puddling, and all other descriptions of furnaces, subjected to the most intense heats and sudden changes of temperature. Glass-house Blocks. Fire-clay Tuyeres used in the Bessemer Steel process; and samples of the Glenboig Star Fire-clay. Hislop's Built Gas Retort.

Edwards, George; Architect, Inventor, Manufacturer; 147, Brompton Road, London.

One Window Frame and sliding Sashes, with two separate patent apparatus for fastening, opening, and closing the sashes. Models of two sash fasteners.

Ewart, Richard ; Contractor, Inventor ; *Ravensthorpe, Yorkshire.*

Three Designs of a new Double-grated Stench Trap and Slop Basin combined, with and without a ventilator, made of Fire-clay.

Finch, John ; Bath Manufacturer, Inventor ; 9, *Buckingham St., Strand, London.*

Royal Porcelain Bath, designed by H.R.H. the late Prince Albert, moulded and glazed in one piece, and complete in one firing. Fittings specially adapted for these baths to prevent fracture. Sinks and glazed Bricks of the same material as the baths.

Francis & Co. ; Cement Manufacturers ; *Bridge Foot, Vauxhall, London, and Cliffe Creek on Thames, Gravesend.*

Portland and Parian Cement.

Gardner, A., & Son ; Timber Preservers, Inventors ; 36, *Jamaica St., Glasgow.*

Method of preserving and seasoning Timber. Rapid seasoning of Furniture Woods. Specimens of Timber preserved from decay, dry-rot, &c. ; of Timber strengthened and freed from shrinkage ; of Timber rendered non-inflammable.

Glenboig Fire Clay Co. ; Fire Brick and Sewage Pipe Manufacturers ; 68, *Bath St., Glasgow.*

Gas Retorts. Blast and Glass Furnace Blocks. Sewage and Water Pipes. Bessemer Tuyeres, &c.

Goldsworthy, Thos., & Sons ; Emery Manufacturers, Inventors ; *Hulme, Manchester.*

Naxos Emery Stone. Turkey Emery Stone. Emery and Glass Cloths. Glass Papers. Britannia Knife Polish.

Executors of the late S. J. Crook Graham & Co. ; Welded and Rivetted Boiler Makers, Inventors ; *Premier Boiler Works, Premier St., Boothtown Road, Halifax.*

Graham's Colonial Welded Boiler for hot water purposes, &c. Graham's Welded "Yorkshire" Boiler for heating public buildings, &c. Solid Welded Vertical Steam Boiler. Solid Welded Plain Saddle Boiler. Welded Harness and Coach House Boiler. Solid Welded Independent Dome Top Stove Boiler. Solid Welded Check Draught Saddle Boiler with three cross tubes. Solid Welded Medallion Boilers. Solid Welded Terminal End Saddle Boiler. Solid Welded Marine Steam Yacht Boiler.

Grant, Robert ; Inventor ; 9, *Tolbooth Wynd, Peterhead, Scotland.*

Composite Carriage and Footway Pavements and Ornamental Pavements.

Hamblet, Joseph; Brick, &c. Manufacturer; *Piercy Blue Brick, Tile, and Pipe Works, West Bromwich, Staffordshire.*

Terra-Metallic Pavings, Copings, Building Bricks, Channel Tiles.

Hamilton, James; Ironmonger, Mill Furnisher, 67, *Yorkshire St., Rochdale, Lancashire.*

Hamilton's Deflectors and ventilating Crosses for preventing down draughts and accelerating ascensional currents (patented); and a variety of models illustrating their action.

Harper & Moores; Manufacturers of Fire-clay Goods; *Stourbridge.*

Fire-bricks, Fire-clays, Crucibles, Gas Retorts, Melting Pots for Glass Works, Blocks for furnaces of all kinds, and other refractory furnace material. (Exhibit also in Class 43.)

Harrison, George King; Fire-brick Manufacturer; *The Lye and Brettel Lane Fire-clay and Brick Works, Stourbridge.*

Stourbridge Fire-clays, in natural state as raised from G. K. Harrison's mines. Specimens of the same after having been subjected to intense heat, showing no contraction. Stourbridge Fire-bricks. Gas Retorts in one piece, and Bricks for making same in segments.

Head, Wrightson, & Co.; *Teesdale Iron Works, Stockton-on-Tees.*

Pulley Blocks.

Hitchins, Richard William; Plasterer and Inventor; 9, *Devonshire Place, Stoke Newington Green, London.*

Small specimen showing Hitchin's Rapid System of forming Ceilings, &c., already dried, one half the thickness and one third the weight of ordinary plastering. By using this process the dirt and loss of time in waiting for drying is avoided, and ceilings, so formed, cannot fall, and are absolutely uninflammable.

Hobbs, Hart, & Co.; Lock, Safe, and Strong Room Manufacturers, Inventors; 76, *Cheapside, London. Works, Arlington Street, Islington, London.*

Jewel Closets and Bullion Vaults as made for Her Majesty and the Bank of England Treasury in 1876. Locks for Banks, Mansions, Hotels, &c.

Hollick & Co.; *Cement Manufacturers, Cement Works, Greenwich.*

Portland Cement in powder for Hydraulic Works, Plasterers, or other uses. Specimens of Cement worked up into concrete of different descriptions simply to show some of the uses to which the article is applicable.

Howorth, James; Consulting and Ventilating Engineer, Manufacturer and Inventor; *Victoria Works, Farnworth, near Manchester.*

James Howorth's Patent Revolving Archimedian Screw Ventilators; self-acting by wind or driven by motive power. The self-acting Ventilators by wind abstract at an average velocity of the wind from 100 up to 1,500 cubic feet of air per minute each Ventilator according to diameter of Ventilator. The Ventilators driven by motive power will abstract from 2,000 up to 15,000 cubic feet of air (charged with heavy dust, steam, or smoke) per minute.

Hunter, James; Granite Polisher and Merchant; 209, *King St., Aberdeen, and at Peterhead.*

Baptismal Font of red Peterhead Granite, all polished, and specimen columns of granite in various colours.

Jennings, George; Sanitary Engineer, Inventor, and Manufacturer; *Depôt, Palace Wharf, Stangate, London; Terra-cotta Drain Pipe and Brick Works, Parkstone, Dorsetshire.*

Water-closet, Lavatory, and Bath Room appliances; Sanitary and water fittings for dwellings, public buildings, and towns.

Johnson, I. C., & Co.; 25, *Great Tower Street, London; Works, Gateshead-on-Tyne, Greenhithe-on-Thames, and Cliffe, near Gravesend.*

Portland Cement.

Kincaid, Joseph; Civil Engineer; 11, *Great George St., Westminster, London.*

Samples of Permanent Way actually in use. Models of the same and modifications as applicable to special circumstances.

King Brothers; Manufacturers and Inventors; *Fire Clay and Brick Works, Stourbridge.*

Specimens of Best Fire Clays produced from their mines; also specimens of the same clays subjected to intense heat to show how little it contracts or is effected by it. Specimens of Fire Bricks, and Gas Retorts, Tank Furnace Blocks, Crucibles, &c.

Kinsman, Rev. Prebendary; Manufacturer; *Tintagel, near Camelford, Cornwall.*

Roofing Slates of different sizes. This slate is most compact in structure and perfectly non-absorbent.

Lamprey, J. H.; Editor, "Industrial Art," Inventor of the "Gillow Lavatory;" *St. Ann's Park, Wandsworth, London.*

The Gillow Lavatory, a patented wash table constructed with the view to economize space. The basin, with the table upon which it rests, is tilted up when not in use, the act of closing the door serves to empty the contents of the basin into a tank

concealed in the woodwork beneath. The lavatory is only five inches in depth from back to front, and can be made of any width from side to side from 16 inches upwards. Manufactured by Messrs. Gillow & Co., London and Lancaster.

Lascelles, William Henry; Builder, Manufacturer, and Inventor; 121, *Bunhill Row, Finsbury, London.*

Thin slabs of Concrete to be used mostly as a building material instead of brickwork for paving, tanks, and many other purposes. The slabs are made quite plain of a pattern to resemble wall tiles, are one-sixth the thickness and weight of an ordinary brick wall, and, as they require support, are screwed to wood upright pieces. To show the application for buildings two cottages are erected at the entrance to the English Court next the Seine, where the walls, roofs, and floors are all of this material made in London. For houses of a better class the walls can be made double by simply screwing slabs on each side of the wood studs, and a great advantage of this mode of construction is the small number of trades required in building a house. The one-storey house at the entrance to the English Court is meant for a model workman's house, and is believed to contain every requisite for a workman in the simplest manner and the smallest space. The cottages exhibited were designed by R. Norman Shaw, Esq., R.A. As an example of a new method of making concrete bricks, see the front of the jury-house in the Grand Avenue in the English Department, which is built entirely of bricks of this description, and is designed by R. Norman Shaw, R.A. Also a stable of novel construction:—The floor of the stable is formed of a red cement clinker possessing greater hardness, better colour, and more perfect width than similar manufactures in clay. The outer yard is paved with red pebble pattern concrete tiles giving a good foothold and allowing water to drain away readily. (*See also Classes 17 and 85.*)

Lavers, Alfred Hamilton; Cement Merchant; *Wharf, Nine Elms, London.*

Portland Cement in different stages of manufacture. Testing Machine, to show strength of cement. Keene's Parian and Roman Cement.

MacDonald (Alex.), Field, & Co.; Designers and Workers in Granite; *Polished Granite Works, Aberdeen, Scotland, and 369, Euston Road, London.*

A polished Red Granite Monument with gray granite base. A Red and Gray Granite Cross with polished ornaments. Specimen Columns of Granites used in business.

McLean & Co.; Cement Manufacturers, &c.; *St. Helen's Wharf, 25, Bankside, Southwark, and Surrey Canal Cement Works, London. (Agents in Paris, A. Legrand et C^{ie}, 22^{bis} Rue Lafitte.)*

Samples of McLean & Co.'s improved Keene's and Parian Cements, in slabs and powder. Specimens of work executed in these cements.

Marshall, Alfred, & Co.; Engineers and Boiler Makers; *Perseverance Iron Works, Heneage Street, Whitechapel, London.*

Portable Asphalte Cauldron mounted on wheels. Small Asphalte Cauldron on wheels. Various Asphalte Tools. (Exhibit also in Class 54.)

Neville, Jackson; Safe Maker, Inventor; 8, *Walter Street, Fallowfield, Manchester.*

Fire and Burglar Proof Safes and Ladies' Jewel Safe.

Patent Selenitic Cement Company, Limited; Patentees and Inventors of the Selenitic Cement; 1, *Great College St., Westminster, London.*

Specimens of Concrete consisting of one part Selenitic cement, six parts ballast, and one part sand, to show its suitability for building purposes generally. Specimens of Selenitic Cement and Sand pressed in a semi-wet state into plain and ornamental bricks. Specimens of Selenitic mortar composed of five parts of sand and one part of Selenitic Cement.

Pen-yr-orsedd Slate Quarry Company, Limited; Slate Quarry Owners, Manufacturers; *Nantlle, near Carnarvon, North Wales.*

Slate Rock, Roofing Slates, Slabs planed and polished. Model Cistern.

The Peterhead Granite Polishing Co.; (William Heslop, Manager), Quarriers and Workers, and Granite Designers and Manufacturers; *Millbank, near Peterhead, Aberdeenshire.*

A Polished Red Aberdeenshire Granite Column on square base with Corinthian Capital and Urn on top of Shaft. A polished Red Granite Square Column on square base with urn on top of cope, raised panels on die and cable moulding round upper base.

Pictor & Sons; Stone Merchants and Quarry Owners; *Box, near Chippenham, Wilts.*

Four specimen Samples of Bath Stone; representing (1) Box Ground Stone, a good weather stone, uninjured by frost, suitable for external purposes; (2) Stoke Ground Stone, similar to No. 1 but of a milder nature and more economical in working; (3) Corsham Down Stone, fine in texture and uniform in quality, suitable for ornamental carving and general building, external and internal, but not so good as No. 1 for resisting weather; (4) Farleigh Down Stone, similar to No. 3 but milder in texture and in smaller average blocks. All are of moderate cost as compared with other building stones in Great Britain.

Plymouth Fire Clay Company; Brick Manufacturers; 53, *Gracechurch St., London.* *Works, Gunnislake, near Tavistock.*

Fire Brick. Fire Clay. Blue vitrified Brick for paving. Blue vitrified garden-edge-tiles. White vitrified Brick.

Ramsay, George Heppel ; Coal Owner, Fire Brick, Retort, & Coke Manufacturer ; *Newcastle-upon-Tyne ; Works, Blaydon-on-Tyne, Derwenthaugh, and Swalwel.*

Fire Clay, Retorts, Fire Bricks, Sanitary Pipes, Coke. Garesfield Coke. Cannel Coal. Gas Coal. Cokeing Coal.

Salmon, Barnes, & Co. ; Engineers, Iron and Brass Founders, and Revolving Shutter Manufacturers ; *Canal Head Foundry and Engineering Works, Ulverston, Lancashire, and at Holborn Hill, Millom, Cumberland.*

Patent Revolving Motion for raising and lowering revolving shutters in wood, iron, or steel, together with a Patent Revolving Shutter in wood and one in iron. (Exhibit also in Class 50.)

Scott's Sewage Company, Limited ; Manufacturers of Cement and Manure, Inventors ; *Royal Albert Hall, Kensington, London. Works, Birmingham, Burnley, and Blackburn.*

Portland and other Cements made from Water Carriage Sewage. Ammonic Fimus Manures made from dry excreta.

The Sicker Safe and Strong Room Company, Limited ; *Soho, near Birmingham.*

A patent "Sicker" Safe. (Exhibited in Class 18 in Messrs. Peyton and Peyton's allotment.)

The Silicated Carbon Filter Company ; Manufacturers and Inventors of Water Filters ; *Church Road, Battersea, London.*

Filters for the purification of water for domestic and manufacturing purposes. The filtering medium (silicated carbon) is in the form of blocks or slabs, securely fitted into the filtering vessel, and possessing the great advantage of being easily cleansed by scrubbing and washing.

Smeaton, Wm., & Sons ; Sanitary Engineers, Manufacturers and Inventors ; *9 and 10, Wych Street, and 9, New-castle Street, Strand, London.*

Patent Needle Bath with shower, plunge, and douche. Patent Tip-up Basins with concealed supply. Patent door-action Urinal. Patent Water waste preventing and regulating Closets, Bath Models, &c.

Stiff, James, & Sons ; Stoneware and Terra Cotta Manufacturers, Inventors ; *London Pottery, High St., Lambeth, London.*

Drain Pipes of improved construction, and specially durable material. Stiff's registered "Interceptor" Sewer-air Trap, for excluding sewer-air from houses. Weaver's Ventilating Sewer-air Trap, and other recent sanitary inventions. Improved Water Filters, in new and ornamental designs. Models of brown and white Stoneware Chemical Apparatus, made specially hard to resist the strongest acids. Terra-Cotta Garden Vases, with new application of colour and other

ornamentation. Architectural Terra-Cotta Keystones, Trusses, String Courses, Medallions, &c., of rich warm tint, and perfectly imperishable. Porous Ware, white and red, as used for telegraphic and other purposes. (Exhibit also in Class 20.)

Stone, J., & Co.; Manufacturers of Brass, Copper, and Iron Goods; *Deptford, London.*

Patent Perfect Waste-preventing Valves and Taps for water-closets, sinks, drinking fountains, &c., suitable for either high or low pressure, arranged so that no more than a given quantity of water can possibly be drawn at one operation. Patent Perfect Waste-preventing Water Closets, with and without arrangement for obtaining after flush, so as to trap the closet. Patent High Pressure Valves and Taps for domestic supply. Patent Fire Cocks and Valves for public buildings, &c. Patent Hydrants, Stand Posts, Sluice Valves, &c. for water supply to towns, &c. Morris's Patent Apparatus for drilling and tapping water mains under pressure, with patent ferrules for use in connexion with same. (See also Class 67.)

The Tamar & Kit Hill Granite Co., Limited; *Hingston House, Gunnislake, Cornwall; Quarries at Gunnislake and Kit Hill.*

Paving, Curb, and Pitching, for street use. Drinking Fountain and Monumental work for Architectural Work. Samples showing the different class of dressing.

Thomlinson & Salkeld; Plaster and Cement Manufacturers; 34, *Junction Road*, and 6, *Fowke's Buildings, Great Tower Street, London; Works, Chartley, Staffordshire, and Loughborough, Leicestershire.*

Group of the Three Graces, made of Exhibitors' Casting Plaster, manufactured from stone raised from their mines. The imitation marble pedestal is made in Exhibitors' English marble (or Keene's) cement, and is illustrative of its value for decorative purposes.

Tylor, Joseph, & Sons; Engineers and Brass Founders; 2, *Newgate St., London; Works, Warwick Square, Warwick Lane, Newgate St., London.*

Patent Water Meter and Fittings. This Water Meter registers the quantities passing through it with the same accuracy under high, low, and varying pressures. The sizes up to and inclusive of two inches being made entirely of brass and gun metal, its accurate registration is not affected by corrosion. Diving Apparatus, adapted for use in deep and shallow waters. Soda Water Apparatus. Waste-preventing and Sanitary Apparatus. General brass work.

Van Praag, Alex., & Co.; Manufacturers of Filters, &c.; 9 (*late 35*), *Crown St., Soho, London.*

Improved Portable Filters for household and traveller's use. Boilerstone Collectors, to prevent incrustation in kettles or boilers. Patent Knife and Tool Sharpeners.

Verity, Brothers; 127, *Regent Street, London.*

Ventilating Apparatus for extracting heated air or smoke from any room.

White, William George; Engineer and Inventor; *Albert Villa, New Malden, Surrey*; and *23, Fenchurch St., London*.

Improved Safe and Locking Apparatus constructed to resist the violence of burglars. Models showing sections of the body of safe. Various shaped Bolts.

Whitehead, John, & Co.; Engineers, specially for Clay Machinery, Inventors, and Manufacturers; *Albert Works, Preston, Lancashire*.

A direct action Steam Machine for the manufacture of Earthenware Sewage Pipes, Fire Clay Gas Retorts, and Pipes for the flow of Chemicals, &c.

Wood & Ivory, Limited; Manufacturers; *Albion Blue, Red, and White Brick and Tile Works, West Bromwich, Staffordshire*.

Vitrified Blue Bricks, Copings, Pavings, &c., &c. Fire-proof Steps. J. W. Ivory's Terra-Metallic Blue, Red, and White Ornamental String Courses, Vases, Mouldings, Trusses, &c., &c.

Wouldham Cement Company; Manufacturers of Portland Cement; *10A, King's Arms Yard, Moorgate St., London*; *Works, Wouldham, Rochester, Kent*.

Samples of the raw material from which Portland Cement is made. Samples of the Cement in its various stages of manufacture, together with specimens of the practical use thereof.

Wright, Sutcliffe, & Son; Brass and Lead Founders, &c., Sanitary Engineers; *Adelaide St., Gibbet St., Halifax*.

Patented Bath Taps and Fittings, Toilet or Wash Basin Cocks and Fittings. Scullery or Kitchen Taps for hot or cold water. Patent High-pressure Double-action Water Taps that will admit of repairs when under pressure. Bath and Lavatory Taps in sterling silver plate. Sections of various Taps exhibited. Sanitary goods:—Cast Lead Syphon Traps for waterclosets, lavatories, &c., showing the mode of fixing and means of ventilating the same. Patent Steam Valve Taps. New and Improved Gland Steam Taps for high or low pressure.

CLASS 67.—NAVIGATION AND LIFE-SAVING.

Drawings and models of slips, graving docks, floating docks, &c.

Drawings and models of vessels of all kinds, sea-going and for rivers. Models of the systems of ship-building adopted in the navy.

Boats and barges.

Materials for the rigging of ships.

Flags and signals. Apparatus for the prevention of collisions at sea. Buoys, beacons, &c.

Apparatus for swimming, diving, and life-saving exhibited in action; floats, swimming belts, &c. Diving belts, cork jackets, nautilus life-belts, &c. Submarine boats; apparatus for saving

life at sea, rocket apparatus, life-boats, &c. Apparatus of all kinds used for saving life from fires and other accidents.

Pleasure boats, yachts, &c.

Armit, Robert Henry ; Lieutenant, Royal Navy ; 10, *Craven St., Strand, London.*

Four Cycloidal Screw Propellers (patented) for propelling vessels through the water, whereby a saving, ranging between 20 and 50 per cent., is effected over all other screw propellers now in use.

Ballardie, Dougald ; 2, *West Howard Street, Glasgow.*
Works, 29, Waterloo Street, Glasgow.

Model of Quarter-ship, with launching apparatus for saving life at sea :—Full working model, scale 1 inch to 1 foot. By means of this arrangement shown on the model, quarter-boats and others may be instantly and safely launched for the purpose of saving life at sea, or on lakes and rivers.

The Barrow Shipbuilding Co. ; *Barrow in Furness.*

Model of a Steamship for the "American Line," for Atlantic service.

The Berthon Boat Co., Limited ; Manufacturers and Inventors of Collapsible Boats ; 30, *Bedford Row, London.* *Works, Romsey, Hampshire.*

Specimen of Dinghy (youyou) for small Yachts. Specimen of Fighting and Shooting Boat. Light Pontoons for military and exploration purposes. Models of larger boats showing how they are applicable to Troop and Emigrant Ships. All collapsible.

Biffen, William Henry, jun. ; Boat Builder and Waterman ; 3, *Rose Cottages, Commercial Road, Bedford.*

Two Glass Cases to represent boathouses. One case containing models of pleasure boats, as used on the Thames, Isis, and Cam. The other of racing boats, as used by the Oxford and Cambridge crews.

Birt, J. & A. W. ; Manufacturers of Life Saving Apparatus ; *Dock Street, London.*

Life Belt, designed by Rear Admiral Ward, R.N., adopted by the Royal National Life Boat Institution for its life boat crews. Life Belt for the use of life boat crews, designed by Richard Lewis, Esq., Secretary of the Royal National Life Boat Institution.

Brice, William A. ; Inventor and Patentee ; *Care of Clifford Poulter, 4A, Middle Temple Lane, London.*

Model of Patent Boat Lowering and Disengaging Apparatus ensuring the simultaneous release of both ends, either at pleasure by drawing out a pin or rope's end, or automatically on being waterborne, yet under all circumstances the boat remains secure till the moment required. (Exhibits also in Class 12.)

Brune & Co. ; *Eden Works, Eden St., Hampstead Road, London, and the Wharf, Abingdon, Berks.*

Launch. Engine.

Chadburn & Son; Opticians and Ships' Telegraph Makers, Manufacturers and Inventors; 71 and 73, *Lord Street*, and 11, *Waterloo Road, Liverpool*.

Chadburn's patent Repeating Engine Telegraph. Patent Steering Telegraph with repeating tell-tale from Rudder-head, and patent Engine Counter.

Crispin, William Henry; Copper Smelter, Inventor; *Marsh Gate Lane, Stratford, near London*.

Folding-up "Boat" for yachts, tourists, troop and passenger ships. These Boats are made of "steel," "copper," or "brass," either corrugated or plain, and are rendered unsinkable by means of bags filled either with air or cork. They fold up into one third the width of an ordinary boat and are about one half the weight.

Cunard, Burns, & MacIver; A Steam-Ship Company; 8, *Water Street, Liverpool*.

Model of the Steam-Ship "Gallia," for the "Cunard" Line, now building by Messrs. James and George Thomson, Glasgow.

Cunningham, Shaw, & Co.; Originators and sole Registered Owners of the "Crown Brand" for Oars, Handspikes, &c.; 21 and 23, *Water Street, Liverpool*.

Three sets of White Ash Oars. Three sets of Spruce Spoon Oars. Three sets of Spruce Oars. Specimens of White Ash Oars, rough and finished. Boat-hooks and poles, Hickory handspikes, and round Hickory bars.

Dunlop, Robert Henry Wallace, C.B.; Late H.M. Bengal Civil Service, Inventor; 12, *Kent Gardens, Ealing, London*. *Works, Blenheim Works, Eagle Wharf Road, Hoxton, London*.

Apparatus for assisting Swimmers. Oval plates for affording remarkable power, endurance, and speed.

East and West India Dock Company; (J. L. DU PLAT TAYLOR, SECRETARY); *Dock House, Billiter Square, London*.

The East India and West India Docks. A model on a scale of 70 feet to 1 inch, constructed by Mr. H. Welch, Bow, London. These extensive docks are situated on the River Thames, about 2½ miles from the City of London, with which they are immediately connected by railway. They now represent a water area of 135 acres, and 221 acres of quays, warehouses, sheds, works, &c. During the year 1876, 1,384 vessels (exclusive of colliers or coasters) with a register tonnage of 826,533 tons entered the docks, and 1,075 vessels with a register tonnage of 862,376 tons loaded outward. The warehouses are capable of housing 190,000 tons of goods.

Hall, Julius; Inventor; 90, *Chancery Lane, London*.

A Working Model of a Fire Extinguisher in warehouse or theatre. A Working Model of a Fire Extinguisher on board ship. A Turret of new design for War Ships. A Drill for drilling square holes by rotary motion.

Head, Wrightson, & Co.; Engineers, Ironfounders, Bridge Builders, Inventors; *Teesdale Iron Works, Stockton-on-Tees.*

Moore's patent Pulley Blocks to lift from 20 cwt. to 10 tons. One Moore and Head's patent Hand-hoist to lift 10 cwt., fitted with Ley's patent brake.

Homfray & Co.; Signal Manufacturers, Inventors, and Patentees; 7, *Great Winchester Street Buildings, Old Broad Street, London.* (Agent in Paris, *J. Aylmer, 4, Rue de Naples.*)

Mechanical Telegraphs for working the Engines or for Steerage of Ships, with automatic reply, as used in the English Marine. Pneumatic Pipes for the transmission of small articles in houses. Pneumatic Telegraph for signalling the working of engines, or for steerage of ships. Signal Apparatus of all kinds. Pneumatic Bells and Indicators. Buttons and ropes to suit different styles of furniture.

Hunter & English; Engineers and Millwrights; *Bow Road, London.*

A Steam Launch, about 50 ft. long by 8 ft. beam, to run upon the River Seine. A "Willans patent" Engine, having cylinders 5 inches in diameter and 6 inch stroke. One 6-inch centrifugal pump driven by a "Willans" patent Engine for circulating water through surface condensers. One stern tube, stern shaft, thrust block and propeller for a small Steam Launch. One six horse-power horizontal Steam Engine with feed pump, fly-wheel, governor, and throttle valve complete.

Inman Steamship Company; 22, *Water St., Liverpool.*

Full-rigged Model of the Inman Steamship Company's Royal Mail Steamer "City of Berlin," built and engined by Messrs. Caird & Co., of Greenock, 1875. Length 520 feet, breadth 45 feet, depth 36 feet; gross tonnage 5,490 tons, net 3,140 tons; indicated horse-power 5,000 horses, nominal 1,000 horses; speed 15½ knots.

Knight, S., 4, *Ordnance Row, Portsmouth.*

Universal Wood Pavement, adapted for railway stations, steam ships, corridors, &c.

Lafargue, A.; Civil Engineer; 141, *Avenue Malakoff, Paris.*

Improved noiseless Hydraulic Apparatus for Steering Ships.

Laird, Brothers; Shipbuilders and Engineers; *Birkenhead Iron Works, Birkenhead, Cheshire.*

Models and Plans of vessels of various classes, designed, built, and fitted with engines by the Exhibitors.

Lewin, David James; Steam Launch Builder and Engineer, Inventor; 110, *Cannon Street, London.* *Works, Victoria Wharf, Fulham, London, and Engine Works, Poole, Dorset.* Agents in Paris, *Muller and Roux, 138, Rue Amelot.*

A Steam Pleasure Launch made of steel, 45 feet long, with well fitted cabin; will attain a speed of 16 miles an hour.

Lipman & Co.; Licensees of Dick's Extincteurs; 141, *West George Street, Glasgow.*

Twelve No. 5 Dick's new Patent Extincteurs, self-acting fire engines. Sixty No. 5 Dick's new Patent Chemical Extincteur charges. The extinguisher consists of a cylindrical-shaped vessel with aperture for charging it with chemicals, and tap and tube for directing the contents on the fire. It is filled with water, which becomes by the admixture of two chemicals densely charged with carbonic acid gas, and destroys combustion. It stands always charged and available for instant action. The working pressure produced by the compressed gas generated within the apparatus varies from 120 to 210 lbs. per square inch, and the range of the jet is from 40 to 50 feet. The chemicals never lose their strength.

Livie, David; Boat Builder; *Boat Building Works, Victoria Docks, Dundee.*

A small Model Boat (a ladies' randan), with fittings. A Model Boat.

The London and Glasgow Engineering and Shipbuilding Co., Limited; 34, *Gracechurch Street, London*, and 162, *Lancefield Street, Glasgow.*

A full-rigged Model of the Steam Ship "Glenartney," winner of the China Tea Race in 1874, 1875, and 1876.

Mackie, Samuel Joseph; Civil Engineer; *Faversham, Kent.*

Models of Improved Steamers for channel passage and general passenger service. Also for canal service. Water-colour Drawing and Models of Steam Ships for the improvement of the channel passage, for canals, and for naval war purposes. (See also Class 68.)

Martin, C., & Co.; Patentees and Manufacturers of Patent Anchors, Chain Cables, and Hydraulic Steering Apparatus; 2, *London St.* and 72, *Mark Lane, City, London.* *Works, Glasgow, Scotland.*

Two Martin's Patent Anchors of 4½ tons each, for H.M. Ironclad Ship "Neptune," and five of smaller sizes. Model of the bows of H.M. Ironclad Ship "Alexandra," fitted with Martin's Patent and also common Anchors. Model of the Martin's Patent Hydraulic Steering Apparatus, and a length of Martin's Patent "Zig-zag" Chain Cable. A Model of Admiral Sir C. Commerell's Patent Square Rudder.

Meyer, Frank John; Civil Engineer, Inventor; 312, *Exchange Buildings, Liverpool.* *Works, The Hamilton's Windsor Iron Works, Garston, near Liverpool.*

Model of small type of Cable Towing Steamers. Model of Drums. Model of Paying-out Apparatus for large type of Steamers. Sample of Screw Coupling. Sample of Cable Swivel.

Palmer's Shipbuilding and Iron Co., Limited; Shipbuilders, Engineers, and Iron Manufacturers; *Jarrow, Newcastle-upon-Tyne*, and at *London.*

Model of a light-draught Gunboat for river service. Model of a Transatlantic Passenger Steamer.

Parratt, George Frederick; Inventor; *Windham Club, St. James' Square, London.*

Model of Collapsible Life Raft, with three keels: the central cylinder of metal or wood for stowage of provisions, water, and signals: the external cylinders are composed of a cork composition, to which are attached air-tight bags to give additional buoyancy when inflated.

Roy, Eugene Armand; Inventor; 1, *Lady Margaret Road, Kentish Town, London.*

Model embodying a notion for attaining stability in Passenger Vessels. The vessel is connected with two buoyant cylinders and a broad platform by steel rods.

Russell, John Scott, Fellow of the Royal Society; Engineer; *Sydenham, Kent*; and **Lumley, Henry**; Associate of the Institute of Naval Architects; 31, *St. James's St., London*; Joint Inventors.

Model of improved Steering Apparatus for Ships and specially for Ships of War, the invention being an addition to and combination with the "Lumley" Rudder, by which the steering manœuvring and management of ships will be much improved.

Siebe & Gorman; Submarine and Electric Engineers, Inventors, and Manufacturers; 17, *Mason St., Westminster Bridge Road, London.*

Improved Diving Apparatus as used in the Royal Navy, Submarine Electric Lamps, also Oil Lamps for Submarine purposes. Alfred Varley's Patent Dynamo-electric Machine for the production of the Electric Light. (Exhibit also in Class 52.)

Steedman & McAlister; Makers of Cork Life Buoys, Jackets, and Fenders, Inventors; *Alma Works, 248, Paisley Road, Glasgow.*

Life Buoys of solid Cork, made by a new process possessing great strength and buoyancy. Life Jackets of the best material. Cork Fenders in manilla, hemp, and coir, best new cordage.

Stone, J., & Co.; Manufacturers of Brass, Copper, and Iron Goods, Inventors; *Deptford, London.*

New Patent Navy Pumps and Fire Engines, adopted in most of the European navies, with deck or suction plates so as to draw water from any number of different places in a vessel. Patent portable Ships' Pump and Fire Engine. New Patent Duplex Valve Water-closet for fitting above the water-line. Patent "Downton" Ships' Water-closet for fitting under the water-line. Improved Night Life Buoy. Improved Port Lights or Side Scuttles. Copper and Cast Metal Nails and Fittings for Boats. (See also Class 66.)

Sunderland Shipbuilders' Association; *Sunderland.*

Models of various descriptions of Vessels (both steam and sailing), built by members of the Association.

Thompson, William Bruce ; Engineer and Iron Shipbuilder, Inventor ; *Caledon Ship Yard and Tay Foundry, Dundee.*

A Windlass fitted with an ordinary pressure gauge to indicate when the strain on the cable approaches the breaking point. An improved Steering Gear of extreme simplicity and great strength combined with increased power, the leverage is obtained by the sliding block arrangement in the crosshead.

Thomson, Sir William ; *The University, Glasgow.*

Mariner's Compass. Machine for Navigational Soundings. (Exhibited in Class 15 in Messrs. L  g   & Co.'s case.)

Thomson, James & George ; *Clyde Bank Foundry, Glasgow.*

Model of the Steam-ship "Columbia," now building for Messrs. D. Hutcheson & Co.'s line between Glasgow and the Highlands.

Vansittart, Mrs. Henrietta ; *Bell House, Montpelier Row, Twickenham.*

The Lowe-Vansittart Curved Pitch Line Propeller, abolishes vibration, enables a ship to go straightly astern, prevents drag from shaft and engines, gives 1 to 2 knots per hour more speed with a lower consumption of coal, &c.

Watts, James Wren ; Hemp and Flax Hackle Manufacturer ; 46, *Old St., St. Luke's, London.*

A Moveable Buoyant Ship's Bunk or Sleeping Berth, capable of carrying when afloat 2 cwt. Life rafts are formed by lashing three or more berths together by the lashings attached. The bunk contains a life jacket, and a locker for provisions and water.

White Star Line ; (ISMAX, IMBIE, & Co., Agents) ; 10, *Water St., Liverpool* ; 34, *Leadenhall St., London.*

Full Models of the Royal Mail Steamships "Britannic" and "Germanic," 5,008 tons register, 760 horse-power (nominal). Models of the Engines of the "Britannic" and "Germanic." Oil painting of the "Britannic" leaving Liverpool for New York.

Whitworth, Sir Joseph, & Co., Limited ; Engineers, Manufacturers, and Inventors ; 44, *Chorlton St., Manchester.*

Screw Propeller Shaft Forging made from a hoop of fluid-pressed steel and forged hollow. Strength of metal 40 tons per square inch, ductility 30 per cent. ; by being hollow one-third of the weight is saved. Air Vessel for Torpedo made of fluid-pressed steel to withstand a proof pressure of 150 lbs. to the square inch. (Exhibited in Class 68.)

Wigzell, Halsey, & Co.; Engineers and Steel Launch Builders;
82, *Mark Lane, London.* *Works, Torpedo Wharf,*
Wandsworth, London.

A Steel Torpedo Boat, with our Greek Fire equipment, propelled by our patent engine, boiler, screw propeller, shafting, &c. (Exhibit also in Class 54.)

CLASS 68.—MATERIALS AND APPARATUS FOR MILITARY PURPOSES.

Military engineering and fortifications.

Artillery, gun-carriages, and weapons and projectiles of every kind.

Military equipment, clothing, and encampments.

Military transport service.

Military topography and geography.

Brown, John, & Co., Limited; Iron and Steel Manufacturers; *Atlas Steel and Iron Works, Sheffield.*

Armour Plates. Steel Shot. Patent Railway Wheel (with paper centres). Paper Centre for Wheel. Samples of Mild Atlas Steel. Patent Dead Weight Safety Valve.

Cammell, Charles, & Co., Limited; Iron and Steel Manufacturers; *Cyclops Steel and Iron Works, Sheffield.*
(*Agents in Paris, A. Leroy & Cie., 5, Cité Trevisse.*)

Armour Plates and Steel Goods.

Clark, Edward Podmore; Captain, Herefordshire Militia,
Inventor and Patentee; 33, *Green Park, Bath.*

Military Model Apparatus for illustrating and teaching drill movements. The chief feature in the Model is the turning principle or simultaneous movements of ranks, so that all retiring movements and deployments, as well as forward ones, can now be illustrated. The places of officers, &c. are shown on the Board.

The Hale-Macdonald War Rocket and Torpedo Company;
Manufacturers and Inventors; 4, *Bridge Chambers,*
171, *Queen Victoria St., London.*

War Rockets (various) fitted with shot heads, also with gun cotton and shrapnel shells. Life Saving Rockets for conveying lines to stranded vessels. Self-propelling Torpedoes. Towing Torpedoes. Stationary, Electric, and Contact Torpedoes, and various apparatus connected with the above.

Mackie, Samuel Joseph; Civil Engineer; *Faversham, Kent.*

Models of Cartridges, Cubes, Grains, and other forms of Cotton Powder for blasting and other purposes. (Also Class 67.)

Whitworth, Sir Joseph, & Co., Limited; Engineers and Manufacturers; 44, Chorlton St., Manchester.

9-pr. Breech-loading Gun, with light carriage and limber made of fluid-pressed steel. Box of Projectiles. Perforated Armour Plates, and the projectiles with which they were perforated; these projectiles are made of fluid-pressed steel. Section of bore of a Gun showing Whitworth form of rifling. Cylinder Linings made from a hoop of fluid-pressed steel and enlarged to size by being forged. Ingot of Fluid-pressed Steel, in section. Ingot of Steel not pressed, in section. Hydraulic Cylinder made of fluid-pressed steel to stand a working pressure of 4 tons to the square inch. Machine Tools, &c. 5-inch Self-acting Foot Lathe. Screwing Apparatus. Internal and External Standard and Screw Gauges. 12-inch Measuring Machine. Standard Measures of Length. Photographs of Workshops. 40 Photographs of Tools, &c. Surface Plates. Metal Testing Machine. Screw Propeller Shaft Forging, made from a hoop of fluid-pressed steel and forged hollow; by which one-third of the weight is saved. Air Vessel for Torpedo, made of fluid-pressed steel to withstand a proof pressure of 1,500 lbs. to the square inch.

Woods, Cocksedge, & Co.; Engineers and Agricultural Implement Makers, and Inventors; Suffolk Iron Works, Stowmarket, Suffolk. (Agent in Paris, Th. Pillet, 24, Rue Alibert.)

Wood's Patent Universal Hematite Iron Target; is stronger than any other. Each target has on its face all the marks required by the English Government regulations for volunteer service, so that it can be formed into 1st, 2nd, and 3rd class targets. Four slabs are sufficient for every class of target. (See also Class 52.)

SEVENTH GROUP.

ALIMENTARY PRODUCTS.

CLASS 69.—CEREALS, FARINACEOUS PRODUCTS, AND PRODUCTS DERIVED FROM THEM.

Wheat, rye, barley, rice, maize, millet, and other cereals in grain and in flour.

Grain without husk, and groats.

Fecula from potatoes, rice, lentils, &c., gluten.

Tapioca, sago, arrowroot, cassava, and other fecula, compound farinaceous products, &c.

Italian pastes, semolina, vermicelli, macaroni.

Alimentary preparations as substitutes for bread, home-made paste, &c.

Berger, Samuel, & Co.; Manufacturers and Patentees of Improved Patent Rice Starch; *Starch Works, Bromley-by-Bow, London.* (*Agents in Paris, Noblet & Duret, 277, Rue de Vaugirard.*)

Rice Starch, blue and white. Starch from the stoves during the several stages of drying, showing progress of the granulation. Madras and Bengal Rice. Gluten and Fibre.

Chamberlin, James; Manufacturer of Game and Poultry Food, Inventor; *Post Office St., Norwich.*

Aromatic Spanish Meal and Caycar Excelsior, for feeding and rearing pheasants, partridges, and all kinds of game. Canadian Meal and Aromatic Compound, for feeding and rearing turkeys, geese, ducks, and all kinds of poultry.

Colman, J. & J.; Mustard, Starch, Washing Blue, and Corn Flour Manufacturers; 108, *Cannon St., London;* and *Carrow Works, Norwich.*

Starch and Corn Flour. (*See also Classes 47, 52, and 74.*)

Edmunds & Cater; Tea Dealers and Italian Warehousemen 38 and 44, *Craven Rd., Westbourne Terrace, Hyde Park, London.*

"The Great Western Baking Powder," for making bread without yeast and pastry without eggs. The "Empress Indian Currie Powder." "The Royal Initial and Monogram Bon Bons."

Grant, John; Grain Miller; *Craig Mills, Strathmartine-by-Dundee.*

Scotch Groats and Oatmeals, Scotch Pot and Pearl Barleys.

Hollington, Joseph; Cattle Food Manufacturer and Inventor; General Seedsman; *Spice Mills, Wolverley, Kidderminster.*

Hollington's Food for Cattle, a spicy aromatic compound for seasoning the Food of Horses, Cattle, Sheep, and Pigs. It greatly assists the digestive organs and acts as a preventative to the various diseases to which cattle, &c., are liable. Samples of Malt for brewing. Samples of Seed Corn.

James, Edward, & Sons; Manufacturers of Starch, &c., Inventors; *Sutton Road, Plymouth.* (*Agent in Paris, E. Laurier, 24, Rue des Halles.*)

Starch for laundry and manufacturing purposes. (Exhibited in Class 47.)

Jones, Orlando, & Co.; Original Inventors and Manufacturers of Rice Starch; *York Road, Battersea, London.*
Starch from rice. Entire Wheat Flour.

Keen, Robinson, Bellville, & Co.; Manufacturers of Mustard, Patent Barley, Groats, &c.; 6, *Garlick Hill, Cannon St., and Red Lion St., Holborn, London.*

Preparations from Barley and Oats:—Robinson's Patent Barley, Groats, Scotch Oatmeal and Pearl Barley. (Exhibited in Class 74.)

Mumford, Peter, & Son; Flour and Corn Factors and Spice Merchants; *Newcastle Granary and Steam Mills, Farringdon Road, London.*

Flour, Corn, Seeds, Oatmeal, Split Peas, Prepared Pea Flour, Groats and Barley, Crushed Linseed, Spices, &c.

Mumford, Peter, Junior; *Royal Flour Mills, Victoria Embankment, Vauxhall, London.*

Wheaten Flour.

Parsons, Fletcher, & Co.; Starch Manufacturers; *Dyer's Buildings, Gravel Lane, Southwark, London.*

Rice Starch.

Snodgrass, James; Miller and Grain Merchant; *Saucel Mills, Paisley, Scotland.*

Pea Flour. A Flour solely manufactured from Pease, can be cooked in a variety of ways as puddings, soups, and brose, is wholesome, highly nutritious, and easily digested. Scotch Oatmeal, the edible part of Oats used for porridge, cakes, puddings, and a variety of other dishes.

Spratt's Patent Biscuit Company; Biscuit Manufacturers; *Henry St., Tooley St., Bermondsey, London. Paris, 36, Rue Caumartin.*

Patent Meat Fibrine Dog Cakes, made of sound meal and meat, and contain dates and other ingredients. Poultry Meal, Game Meal, and Pheasant Food, for rearing all kinds of poultry and game. Pig Food, to assist in fattening. Cat Food, made from fresh beef and other sound materials. Dog Soap. Dog Medicines. Navy Biscuits of all kinds.

Stanbridge, S., & Co.; Maltsters; *Canal Bank, Camberwell, London.* (*Agent in Paris, A. Evard, 38, Rue Notre Dame des Victoires.*)

Imperial Black and Brown Malts (speciality) for colouring Beers. Patented.

Thomson, James, & Sons; 5, *Leven St., Edinburgh, and 132, Westgate Road, Newcastle-on-Tyne.*

Oatmeal: Coarse, Medium, and Fine Ground. Oatmeal Cakes.

Thorley's (J. W.) Cattle Food Co., Limited; Manufacturers 104, *Worship St., Bishopsgate St., London.* (*Agent in France, Alfred Watkins, 3, Rue de Provence.*)

Cattle Food.

CLASS 70.—BREAD AND PASTRY.

Various kinds of bread, with or without yeast, fancy bread and bread in shapes, compressed bread for travelling, military campaigns, &c. (*See biscuits.*)

Pastry of various kinds peculiar to each country. Gingerbread and dry cakes capable of being preserved.

Barr, P. W., & Co.; Biscuit Manufacturers and Inventors; *Juniper St., Bankhall, Liverpool.*

Fancy and Sweet Biscuits. Navy Biscuits. "Old Calabar" Patent Meat Dog Biscuits. "Old Calabar" Patent Plain Dog Biscuits. "Old Calabar" Patent Poultry Meal. "Old Calabar" Patent Brazilian Poultry Meat.

Christie & Co.; Manufacturing Drysalters, Inventors; *Royal Mint St., London.*

Pure Digestive Baking Powders. Soda Ash. Refined Alkalies. Soda Crystals. Bicarbonate of Soda. Tartaric Acid.

Clarke, W. G.; *Regent's Canal, Commercial Road, Limehouse, London.*

Buffalo Meat Biscuit for Dogs, Prepared Poultry Food and Granulated Meat for Pheasants, &c.

Huntley & Palmers; Biscuit Manufacturers, Inventors; *Reading; and 9, Rood Lane, London.*

Plain and Fancy Biscuits and Cakes.

Middlemass, Robert; Biscuit Manufacturer; 77, *Causeway-side, and 19 & 20, West Preston St., Edinburgh.* (*Agents in Paris, Alfred Smyth & Co., 17 & 19 Rue de Maubeuge.*)

The original and genuine Albert Biscuit.

Parkinson Brothers; Wholesale Confectioners, Inventors; 43, *Hammerton St., Burnley.*

Baking Powders, viz., Pastry Powder, Egg Powder, and Custard Powder, all pure, containing neither alum nor other injurious ingredient.

Peck, Frean, & Co. ; Fancy Biscuit Manufacturers, Inventors ; *Drummond Road, London.*

Machine-made Fancy Biscuits.

Richards & Co. ; Self-raising Flour and Baking Powder Manufacturers and Inventors ; 81, *High St., Marylebone, London.*

Self-raising Flour, to be used for making bread or pastry without the use of yeast or other ferments. Baking Powder, for use in making pastry, puddings, &c. without fermentation.

Romary, Alfred ; Water Biscuit Manufacturer ; 26, *Church St., Tunbridge Wells, Kent.*

The celebrated "Tunbridge Wells" Water Biscuits ; their composition is very nutritious.

Walker, John ; Biscuit Manufacturer ; *Royal Biscuit Factory, Cleveland Street, Glasgow.*

Royal Tea Biscuits. Royal Wine Biscuits. Royal Water Biscuits. Entire Wheaten Meal Biscuits. Sweet Oaten Biscuit manufactured from Flour of Corn. Scotch Farls (Oatmeal Cakes). Scotch Oatmeal. Oaten Flour or Flour of Groats. Scotch Oats from East Lothian.

Wilson, Thomas ; Pastry Baker ; 122, *Main St., Anderston, Glasgow.*

Oatmeal, Oatena, Oatmeal Cakes. Shortbread. Scotch Buns. Baptismal and Birthday Cakes.

CLASS 71.—FATTY SUBSTANCES USED AS FOOD. MILK AND EGGS.

Fatty substances and oils good for food.

Fresh and preserved milk ; fresh and salt butter ; cheese.

Eggs of all kinds.

Clanchy, Timothy J. ; Butter Merchant and Exporter ; *Munster Dairies Depôt, Cork. Works, Watercourse, Cork.*

Genuine Grass Butter, specially prepared and packed for export, for long voyages and hot climates.

Geyelin & Co. ; Civil Engineers, Inventors, Manufacturers ; *Belgrave House, Argyle Square, London.*

Concentrated Animal and Vegetable Food, separate and combined.

Hooker, J. ; Fellow of the Chemical Society, Analytical Chemist ; 104, *Upper Thames Street, London.*

Condensed Milk, prepared in May, 1871, which has been exposed to the air for seven years (Butter was made from a portion of the milk when four years and three months old). Condensed Milk, and other preparations made with Milk.

Hooker's Cream-Milk Company, Limited; Shardlow, Derbyshire, and London.

"Cream-Milk." "Cream-Milk and Cocoa." "Grimwade's Desiccated Milk." Hooker's Patent Soda Water and Milk; and other preparations made with Milk.

Stafford, J., Sons, & Oswin; Cheese Factors; Campbell St., Leicester.

Stilton Cheese, manufactured from a judicious mixture of cream and new milk. (Exhibitors also in Class 46.)

CLASS 72.—MEAT AND FISH.

Salt meat of all kinds. Meats preserved by various processes. Meat and soup cakes. Hams and prepared meats.

Poultry and game.

Salt fish, fish in barrels: cod, herrings, &c.; fish preserved in oil; sardines, tunny, &c.

Crustacea and shell fish: lobsters, shrimps, oysters, potted oysters, anchovies, &c.

Barnes & Co.; Manufacturers of Preserved Provisions; 137, Upper Thames St., and 5, 6, and 7, Mill Lane, Tooley St., London.

Tart Fruits, in glass bottles preserved in water. Marmalade, Syrups, Table Jellies, Pickles, Jams, Jellies, Sauces. Potted Meats, Preserved Sausages, Tongues, Hams, Bacon, Fish, in tins cooked ready for use.

Brand & Co.; Manufacturers of Meat Essences, &c.; 11, Little Stanhope St., Mayfair, London.

Meat Essences. Concentrated Beef-Tea and Broths; Savoury Meat Lozenges; Turtle Soup and Jelly, Beef Tea Jelly, Calf's Foot Jelly and other special articles of diet for Invalids. Also, Soups, Meats, Game, and other preserved provisions, Sauces, Chutney, &c.

Crosse & Blackwell; Manufacturers; 21, Soho Square, London; Brewery Road, London; and Morrison's Quay, Cork.

Pickles, Sauces, Malt Vinegar, Jams, Jellies, and Preserved Fruits, Preserved Soups, Fish, Meats, and Vegetables.

Halford, James Valentine; Manufacturer of Preserved Indian Curries, Inventor; 12, Upper St. Martin's Lane, London.

Indian Curries. Meats curried as in India and preserved in tins.

Knowles, J. & G.; Fish Curers; *Stonehaven*.

Dried Cod Fish, Ling, &c. Smoked Haddocks, &c.

Lindemann, Adalbert Charles; Doctor of Medicine, Inventor; 10, *Wasnidge St., Hulme, Manchester*.

Fresh Meat, preserved in glass vessels.

McCall, John, & Co.; Preserved Provision Manufacturers; 137, *Houndsditch, London*.

Preserved Beef, Mutton, Tongues, Vegetables, Soups, &c.

Moir, John, & Son; Manufacturers of Preserved Provisions; *Glasshouse Fields, Brook St., Ratcliff, London*.

Marmalade, Jams, various kinds of Fish, Vegetables, Soups, and potted Meats. Preserved Meats, Tongues, Brawn, &c. Pickles, Sauces, and Essences.

Perry, William T. L.; Inventor and Manufacturer; *Mount's Bay Steam Works, Penzance, Cornwall*.

Marinated Pilchards prepared in pure Malt Vinegar from selected fish, with bay leaves, &c., and packed in white earthenware Jars, hermetically sealed.

Schneider, Edward Albert; Inventor; 4, *Cambria Villa, Chesterton Road, Cambridge*.

Liquid Essence of Beef without any other ingredient. Preserved Soups, a condensed mixture of beef, arrowroot, rice, or vegetables, prepared ready for immediate use.

Tallerman, Daniel; Inventor of portion of Refrigerating Apparatus. Importer of Preserved Provision; 113, *Cannon St., London*.

A collection of Preserved Meat, Fish, Poultry, Fruits, Vegetables, &c. Working Models of Refrigerating Apparatus for transporting fresh meat, &c. by sea and by land, and for storing it on land.

Whitehead & Company (Limited); Manufacturers of Preserved Meats, &c., Inventors; 110, *Fenchurch St., London*. Works, *Broadwater Wharf, Limehouse, London*. Paris, 8, *Rue de Hanovre*. The *Fitzroy Works, Rockhampton, Queensland*.

Solidified Soup Squares, Solid Essence of Beef in skins and boxes. Compressed Dried Vegetables, Dog and Poultry Food, Army Food (portable rations). Soups in Tins.

Wigan, Henry, & Co.; Importers and Manufacturers of Isinglass; *Swan Lane, Upper Thames St., London*.

Isinglass, in the manufactured and unmanufactured state.

CLASS 73.—VEGETABLES AND FRUIT.

Tubers : potatoes, &c.

Dry farinaceous vegetables : beans, lentils, &c.

Green vegetables for cooking : cabbages, &c.

Vegetable roots : carrots, turnips, &c.

Vegetables used for flavouring : onions, garlic, &c.

Salads, cucumbers, gourds : pumpkins, melons, &c.

Vegetables preserved by various processes.

Fresh fruit ; dried and prepared fruits : prunes, figs, raisins, &c.

Fruits preserved without sugar.

Mackay, John, & Co. ; Manufacturing Chemists, Inventors ;
Canning St., Athole Crescent, Edinburgh.

Flavouring Essences from fruits and spices, with various articles of diet for invalid, table, and domestic use. (*See also Class 47.*)

CLASS 74.—CONDIMENTS AND STIMULANTS, SUGAR AND CONFECTIONERY.

Spices, pepper, cinnamon, allspice, &c.

Table salt.

Vinegar.

Compound condiments and stimulants : mustard, kari, English sauces, &c.

Tea, coffee, and other aromatic beverages, chicory and sweet acorn coffee.

Chocolate.

Sugar for household purposes : grape sugar, sugar of milk.

Confectionery : sugar plums, bonbons, nougats, angelica, aniseed, &c., preserves and jellies.

Dried and preserved fruits : cedrats, lemons, oranges, pine-apples.

Fruits preserved in brandy.

Syrups and liqueurs.

Allen, Frederick, & Sons ; Manufacturing Confectioners ;
Canal Road, Mile End, London ; and 138, Bishopsgate St., London.

Confectionery, such as Lozenges, medicated and others, Jujubes, Drops, Effervescing Citrate of Magnesia, Pontefract Liquorice, Cakes and Rolls, &c.

Ball, James ; Italian Warehouseman, Manufacturer ; 12,
Duke St., Grosvenor Square, London.

The "Qui-Hi Sauce," a piquant and savoury sauce, perfectly free from any deleterious ingredient, having great delicacy of flavour and eminently appetising qualities.

Barringer & Brown; Mustard Manufacturers; *Rock Valley Mills, Mansfield.*

Mustard and Mustard Condiments, with new and improved modes of packing.

Batty & Co.; Manufacturing Oilmen, Inventors; 8, *Finsbury Place, London.*

Pickles, Sauces, Jams, Marmalade, Fruit Jellies, Calves' Feet Jellies, Potted Meats, Currie Powder, Prepared Mustard, &c.

Bush, W. John, & Co.; Manufacturing Chemists, Inventors; 20 to 23, *Artillery Lane, Bishopsgate Street Without, London. Works, Ash Grove, Hackney, London. (Agents in Paris,)*

Harmless vegetable colours for confectionery purposes. (Exhibited in Class 47.)

Callard & Bowser; 20 & 22, *Finchley Road, St. John's Wood, London.*

Confectionery, Boiled Sugars packed in paper packets and fancy card boxes. Specialities, Butter Scotch and Rahat Lakuhm.

Colman, J. & J.; Mustard, Starch, Washing Blue, and Corn Flour Manufacturers, Inventors; 108, *Cannon St., London; and Carrow Works, Norwich.*

Mustard and Mustard Products. (Exhibit also in Classes 47, 52, and 69.)

Curr, Thomas; Manufacturer of Coffee Essence; 7, *Schoolhill, Aberdeen.*

Essence of Coffee in bottles.

Dickinson Brothers & Co.; 4, *Fenchurch Buildings, London, E.C.*

Indian Condiments, comprising Chutneys, Pickles, Jellies, &c.

Dunn & Hewett; Manufacturers of Soluble Cocoas, Chocolates, and Essence of Coffee, Inventors and Manufacturers; 136, *Pentonville Road, London.*

Soluble Cocoa in powder and paste, the former a combination of cocoa, sugar, and farinaceous substances, such as arrowroot, sago, &c., the latter a combination of cocoa and sugar. Soluble Chocolate, a combination of cocoa and sugar in the form of a cake. Essence of Coffee, obtained from fine growths of coffee by an ingenious process of manufacture. Raw Cocoas of all kinds, to show varieties of quality and growth. Cocoa Shell, large and small. Cocoa Nibs. Cocoa Nibs, ground in block. Cocoa Butter. Theobromine, the vital principle of cocoa. Caffeine, the vital principle of coffee. Farinaceous Substances used in the manufacture of cocoas and chocolates. Raw and Roasted Coffee from which the essence is manufactured. Lichen Islandicus (Iceland Moss), a principal ingredient in the celebrated Iceland Moss Cocoa. Eating Chocolates of all kinds, to show the progress of the English manufacture of chocolate. Essence of Spices and Herbs.

Fondclair Brothers; *Putney Hills, Madura, Madras.*

Samples of Coffees. (Exhibited in Indian Section.)

Fry, Joseph Storrs, & Sons; Chocolate and Cocoa Manufacturers, Inventors; 12, *Union St., Bristol*; and 252, *City Road, London.*

Chocolate in cakes for drinking. Chocolate Confectionery. Homœopathic Cocoa. Caraccas Cocoa. Cocoa Extract: pure Cocoa deprived of a portion of the oil. Specimens of the Raw Material. Botanical Illustrations.

Green & Stembridge; Wholesale Italian Warehousemen and Manufacturers; 34, *Leicester Square, London*; and *Bow Works, 54 and 55, Cornwall Road, Lambeth, London*; and *Dhurruntollah St., Calcutta.*

Sauces, Pickles, Preserves, Bottled Fruits, and Jellies, also varieties of East Indian Chutnees, Curry Powders, Preserves, &c.

Green, John; Gelatine Manufacturer; 12, *Graham Terrace*, and 43, *Ridley Road, Kingsland, London.*

Sheet Gelatine in various colours and designs, used by confectioners for wrappers and various other purposes.

Keen, Robinson, Bellville, & Co.; Manufacturers of Mustard, Patent Barley, Groats, &c.; 6, *Garlick Hill, Cannon Street*, and *Red Lion Street, Holborn, London.*

Keen's Mustard. Preparations from Barley and Oats. Robinson's Patent Barley, Groats, Scotch Oatmeal, and Pearl Barley.

Maw, Thomas; Pickle and Sauce Manufacturer, &c.; *Jacob's Well, Camp Road, Leeds.*

Pickles, Sauces, Vinegar, Lozenges, &c., Citrate of Magnesia.

Menier, Emile; Chocolate Manufacturer; *Southwark St. and Worcester St., Borough, London.*

Chocolates and Cocoas.

Patchitt, E. Cheshire; Sauce Manufacturer; *Ilkeston Road, Nottingham. Works, New Radford, Nottinghamshire.*

Nottinghamshire and Anchovy Sauces. Pickles and Condiments.

Pratt, James; Inventor and Manufacturer; 227, *Oxford St., London. Works, Paddington, London.*

National Sauce, an article of extreme purity and warranted to keep any length of time, corked or uncorked.

Rose, L., & Co.; Lime Juice Merchants, Inventors, and Manufacturers; 11, *Curtain Road, Finsbury, London. Works, Leith, Scotland.*

Beverages prepared from the juice of the Lime Fruit, preserved from deterioration by special process, and free of any alcohol. An Improved Stopper for Bottles, containing aerated waters. (See also Class 52.)

Stevens, Thomas; Confectioner; 46, *Hope St., Wrexham, North Wales.*

Bride and Christening Cakes. Biscuits and other various Confectionery.

CLASS 75.—FERMENTED DRINKS.

Vin ordinaire, red and white.

Sweet wines and still wines.

Sparkling wines.

Cider, perry, and other beverages made from cereals.

Fermented drinks made from vegetable sap, from milk, and sweet substances of all kinds.

Brandies and alcohols.

Spirits: gin, rum, tafia, kirsch, &c.

Anglo-Bavarian Brewery Co.; Inventors; *Shepton Mallet, Somersetshire.*

Amber and Pale Ales, in casks and in bottles, brewed for home consumption and for exportation, the latter being specially adapted for use in tropical climates.

Arthur, J., & Co.; Hop and Seed Factors; 4, *Nicholas Parade, Bristol.*

Hops.

Ballingall & Son; Brewers; *Pleasance Brewery, Dundee.*
Scotch Bitter Beer.

The Banbury Brewery Company; *Bridge St., Banbury.*
Double Stout.

Bevan, John James; Hop Grower and Curer; 1, *Bath Terrace, Farnham, Surrey.*

One pocket of Farnham Whitebine Hops.

Bindley & Company; Brewers and Maltsters; *The Brewery, Burton-on-Trent.* (*Agent in Paris, G. Hadfield, 92, Rue d'Hauteville.*)

India Pale, Mild, and Strong Ales, exhibited for their purity, delicacy of flavour, aroma, and brilliancy, being brewed from malt and hops only.

Boake, A., & Co.; Chemical Manufacturers; *Stratford, near London.*

Ant-acid Finings (patent), and other chemical requisites for brewers.

Catto, James; 21½, *Adelphi, Aberdeen.*

Whisky, as exported to India and the colonies.

Cork Distilleries Company, Limited; Manufacturers;
Morrison's Island, County Cork, Ireland.

Irish Whiskey in casks and cases.

Dunville & Co.; Manufacturers; *Royal Irish Distilleries, Belfast, Ireland.*

Old Irish Whisky.

Evans, Richard, & Company; Manufacturing Chemists,
Rectifying Distillers, and Sauce Manufacturers.
Works, Pentrefelin, Wrexham, North Wales.

Alimentary Products:—British Wines, Cordials, Fruit Syrups, Essences, Liqueurs, Aërated Waters, Royal Welsh Sauce, Cattle Condiment and Spice. Manufactured Products:—Concentrated Fluid Carbonate of Lithia and Potass. Baking Powder. Dry Soap.

Ferguson & Son; Brewers; *Angel Brewery, 116, Broad Street, Reading.*

Two casks of Porter and four casks of Double Stout, brewed from the best English malt and hops.

Henley & Son; Cyder and Vinegar Makers; *Joiner St., Tooley St., Southwark, London; and Abbotskerswell, Newton Abbot, Devonshire.*

Champagne sparkling Perry and Cyder. Still Lime Cordial and Lemon Juice. Malt and Grain Vinegar in bottle.

Holmes, Joseph; Brewers' Chemist, Inventor; *Crown Chemical Works, Crown St., Leeds. (Agent in Paris, A. Evrard, 38, Rue Notre Dame des Victories.)*

Holmes' Patent Finings for Ales, Wines, Cider, &c., with specimens of English, French, and German Ales clarified. Also samples of Bi-sulphate of Lime for the prevention of acetious fermentations in malt liquor and wines. Hop substitute for brewing purposes. Holmes' patent Ant-acid for sour ales. Holmes' crystallized Sulphate of Lime for hardening brewing water. Salts used in Vincent's process of hardening water for brewing purposes, which converts any water into first class Burton brewing water in a few minutes.

Ind, Coope, & Co.; Brewers; *Burton-on-Trent; and Romford, Essex. (Agents in Paris, Simon-Auvray & Cie., 6, Passage Lathuile.)*

Pale Ale, and Strong Burton Ales, Nos. 1, 2, and 3, brewed from malt and hops only at Burton-on-Trent. Pale Ale (A.K.K.), Stout, and Porter, brewed from malt and hops only at Romford, Essex.

Kinahan & Co.; Irish Whiskey Merchants and Distillers;
Carlisle Building, Dublin; and 20, Gt. Titchfield St., Oxford St., London. (Agents in Paris, A. Smyth & Co., 17 and 19, Rue de Maubeuge.)

Kinahan's LL Whisky (Finest Old Irish).

Kitchin, Joseph; Farmer and Hop Grower; *Dunsdale Farm, Westerham, Kent.* (*Agent in Paris, C. Caillette, 4, Rue de la Vrillière.*)

Hops and Barley.

Marshall & Holland; Manufacturers, Inventors; 1, *Dod Street, Limehouse, London.*

Samples of Ale and Wine Finings. Samples of Bisulphite of Lime. Samples of Isinglass.

Minchen Brothers; *Aska, Gamjam District, Madras.*

Sugar and Sugar Spirits. (Exhibited in Indian Section.)

The New Westminster Brewery Co., Limited; *Earl St., Horseferry Road, Westminster, London.*

Pale Ales brewed 1876, 1877, and 1878, exhibited for superiority in flavour, condition, aroma, and keeping quality.

Shiels, James; Wholesale Whiskey Merchant and Blender; 21 and 22, *Square, and Mill-Wynd, Kelso, Roxburgh.*

The "Far-famed Border Blend" of Scotch Whiskey.

Sims, Wm., & Son; Brewers and Maltsters; *Lion Brewery, Reading.*

India Pale Ales brewed from the best malt and hops only. Imperial Stout.

Vaughan-Jones, Edward; Spirit Merchant and Manufacturer; 17, *Water Lane, Great Tower St., and the London Docks, London.* (*Agents in Paris, A. Smyth & Co., 17 and 19, Rue de Maubeuge.*)

Old Tom Gin, Scotch Whiskey, Jamaica Rum, Orange Bitters, Ginger Brandy, Cherry Brandy, Ginger Wine.

Vickers, Joseph and John, and Company; Compounders, Manufacturers of Cordials and Spirit Rectifiers, Inventors; *Victoria Street Distillery, Westminster, London.*

Sweetened and Unsweetened Gin, and Pale Orange Bitters. Ginger Brandy, Noyeau, Curaçoa, Curaçoa-Punch, and several other liqueurs.

Williams, William, & Sons; Highland Whiskey Merchants; 19, *Regent Quay, Aberdeen.*

Whiskey from the most celebrated distilleries of Scotland, matured in sherry wood, and blended for the purpose of receiving the proper flavour.

Wright, Herbert, & Co.; Brewers; *The Diamond Brewery, Marton, near Dover.*

Pale Ale and Extra Stout in bottle and cask.

Young, John, & Son; Brewers; *Dorking, Surrey.*

Ale. The Cask and Stand are of English oak, and were made in the Brewery.

EIGHTH GROUP.

AGRICULTURE AND PISCICULTURE.

CLASS 23.—USEFUL INSECTS AND NOXIOUS INSECTS.

Bees, silkworms, and other varieties of the bombyx tribe.

Cochineal insects.

Apparatus used in the culture of bees and silkworms.

Apparatus and processes used for the destruction of noxious insects.

Abbott, C. N.; Professor of Agriculture, Inventor, and Manufacturer; *Fairlawn, Southall, near London.*

Hives for Bees, and Bee Furniture. The Hives are constructed on a new principle, so as to prevent crushing the bees, and to assure the greatest conveniences to beekeepers at a moderate cost. The sides are double, to ensure warmth and dryness, and to admit of the withdrawal of the frames, which are interchangeable.

Neighbour, George; & Sons; Manufacturers and Inventors of Apiarian Appliances; 127, *High Holborn, and 149, Regent St., London. Works, West End, Hampstead, near London.*

Improved Straw Cottage Bee Hive, with three glass supers for taking honey without destruction of bees. Frame Hives of wood and straw for the removal of combs. Philadelphia Frame Hive for removal of combs from the side as well as top. Honey extractor for separating the honey from the comb by centrifugal force. Bee feeders and other implements.

Wilson, Brice; *Newbury, Berkshire.*

Improved Observatory Beehive.

NINTH GROUP.

HORTICULTURE.

CLASS 85.—CONSERVATORIES AND HORTICULTURAL APPARATUS.

Gardeners', nurserymen's, and horticulturists' tools.

Apparatus for watering and keeping turf in order, &c.

Large conservatories and apparatus appertaining thereto. Room and window conservatories.

Aquariums for aquatic plants.

Fountains and other means for ornamenting gardens.

Barnard, Bishop, & Barnards; Iron Workers, Inventors;
Norfolk Iron Works, Norwich.

Galvanized Wire Netting, Garden Furniture, Noiseless Lawn Mowers. (Exhibit also in Class 25.)

Boulton & Paul; 1, *Rose Lane Works, Norwich, Norfolk.*

Ornamental Conservatory, 31 feet long \times 16 feet wide by 14 feet high. An assortment of Galvanized Improved Machine-made Wire Netting for game, poultry, aviaries, &c.

Boyd, James, & Sons; Horticultural Builders and Heating Engineers, Designers; *Macdowall Street, Paisley, Scotland.*

A Composite Conservatory constructed of wood, iron, and glass combined, with hot water apparatus for heating it. The wood is preserved against decay by Gardner's patent process, which extracts the natural sap from the wood.

Carter (James), Dunnett, & Beale; The Queen's Seedsmen;
High Holborn, London.

Models of Agricultural Roots used as food for cattle. Models of Vegetables and other Garden Produce. Samples of Agricultural, Vegetable, Flower Seeds. Specimens of Prize Grain (Corn), Grass Seed, &c.

Draper, John; 22, *Great Winchester St., City, London.*

Specimens of Oils, Oil Seeds, and Oil Seed Cakes for feeding and other purposes. (Exhibits also in Class 46.)

Follows & Bate; *Dutton Street Works, Manchester.*

Patent Lawn Mowers and other Horticultural Machinery. Domestic Machines of various kinds. Agricultural and Miscellaneous Machinery and Tools and Patent Archimedean Ventilators.

Fox, J. Caven; *Royal Horticultural Gardens, South Kensington, London.*

Rustic Summer House.

Harlow, Benjamin; Engineer and Iron Founder, Inventor and Patentee; *Macclesfield, Cheshire*; and *9, Camden St., London Road, Liverpool.*

Patent Heating Apparatus, for churches, chapels, schools, public buildings, conservatories, greenhouses, offices, and houses. Patent Pipe Joints and Valves.

Hartley & Sugden; Wrought Welded Iron Boiler Manufacturers; *Atlas and Premier Works, Gibbet St., Halifax.*

Wrought Welded Iron Boilers, for heating apparatus constructed to warm buildings by the circulation of hot water, with great economy of fuel. Valves to regulate the circulation of hot water in Heating Apparatus. Small Welded Vertical Steam Boiler, for driving agricultural machinery, steam cooking, &c. Lawn Mowing Machines.

Lascelles, W. H.; Builder; *121, Bunhill Row, Finsbury, London.*

A curvilinear Plant House, made of wood, steamed, bent, and rivetted, glazed with straight glass, showing elegance of form, simplicity of construction, equal weight of parts, and durability. (See also Classes 17 and 66.)

Lumby, Edwin; Manufacturer and Inventor; *West Grove Welded Boiler and Patent Safe Works, Halifax, England.*

Wrought Welded Boilers for heating buildings, conservatories, &c. by circulation of hot water; and for use with kitchen ranges, stoves, &c. Steaming and cooking apparatus. Independent Vertical Steam Boilers for engineers and agriculturists. Fire and Burglar-proof Safes, &c.

Parkinson, William; Lawn Mower Manufacturer, Inventor; *Market Place, Ripon, Yorkshire.* (*Agent in Paris, G. Hadfield, 92, Rue d'Hauteville.*)

Patent Hand Lawn Mowers, in various sizes from 8 to 24 inches. Patent Horse-power Lawn Mower, with back delivery, 30 inches.

Radclyffe (Dick) & Co.; *128 and 129, High Holborn, London.*

Window Case and Aquarium. (See also Class 86.)

Richards, William; Publisher; *41, Wellington St., Strand, London.*

Specimens of Coloured Plates illustrative of flowers, plants, &c., frequently issued with "The Gardener's Chronicle."

Saynor, Cooke, & Ridal; Manufacturing Cutlers; *Paxton Works, 13, Edward St., Sheffield.*

A general assortment of Garden Cutlery and Tools, consisting of Pruning, Budding, and Grafting Knives and Scissors, Shears, Syringes, Saws, Fruit Gatherers, Hatchets and Bills, Trowels, &c.

Sutton & Sons; *Royal Berks Seed Establishment, Reading.*

A collection of Agricultural and Horticultural Seeds, remarkable for the purity of the samples. A complete collection of Natural Grasses, for permanent pastures, including several hundred specimens as supplied for the purpose in all parts of the world. A collection of Models of Agricultural Roots, Vegetables, and Potatoes, the originals of which have been grown from seeds supplied by the firm. An extensive collection of Grasses in growth.

Thomas, J. J., & Co.; Wire Workers and Bird Cage Makers; *285 and 362, Edgware Road, London.*

Garden and Conservatory Wire Work, Aviaries, Bird Cages, Flower Stands, Suspending Baskets, and other light ornamental Wire Goods.

Webb, Edward, & Sons; Seed Growers and Merchants; *Royal Seed Establishment, Wordsley, Stourbridge. Seed Farms, Kinver Hill, Kinver Edge, High Grove, and Dunsley Manor, near Stourbridge.*

Samples of Prize Stocks of Home-grown Farm and Vegetable Seeds and strains of Flower Seeds. Specimens of Grasses grown at the experimental farms, consisting of the most suitable kinds for permanent pastures, parks, lawns, &c. prepared in mixtures to suit all soils according to their geological formation. Collection of Specimens and Models of Agricultural Roots, Vegetables, Potatoes, &c. Specimens and Models of Agricultural Roots and samples of Root Seeds.

CLASS 86.—FLOWERS AND ORNAMENTAL PLANTS.

Species of plants and examples of culture exhibiting the characteristic types of the gardens and dwellings of each country.

Christy, Thomas, & Co.; Merchants; *155, Fenchurch Street, London; Nursery Broomfield, Essex.*

Drawings of the Forage Plants.

Christy, Thomas; Plant Merchant; *155, Fenchurch St., London; and Broomfield, Essex.*

Prickly Comfrey, or *Symphytum Asperrium*, a new plant for cattle fodder, propagated by the root cutting.

Radclyffe (Dick) & Co.; 128 and 129, High Holborn, London.

Plants and Rockwork arranged for Conservatory decoration. Specimens in the Pavilion of H.R.H. the Prince of Wales. President of the Royal Commission. Natural dried and dyed Grasses, Flowers, &c.

Wills, John ; Royal Exotic Nursery, Onslow Crescent, South Kensington, London.

A large Collection of Plants arranged for effect to show the proper style of arranging Winter Gardens, Conservatories, &c. some of the specimens being the finest ever exhibited in Europe. (Exhibited in Messrs. James Boyd and Sons' conservatory.)

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For Her Majesty's Stationery Office.

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EXHIBITION,

1878.

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OF THE

BRITISH SECTION.

PART II.

(SECOND EDITION.)



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His Royal Highness the Prince of Wales, K.G., &c., &c.,

PRESIDENT OF THE ROYAL COMMISSION
FOR GREAT BRITAIN AND IRELAND.



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FOR HER MAJESTY'S STATIONERY OFFICE.
1878.

Price Half-a-Crown for the Two Volumes.

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**LIST OF CONTRIBUTORS WHO HAVE KINDLY PLACED
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Whitfield, G. B. -	The Hollies, Smallheath, Birmingham.
Willis, H. R. -	The Shrubbery, Wolverley.
Wilson, J. -	Aucheneck, N.B.
Wyndham, The Hon. Percy, M.P. -	44, Belgrave Square, London.



INDEX OR ALPHABETICAL LIST OF EXHIBITORS

(EXCEPT FINE ARTS AND LIVE STOCK).

A.

Class.

83. ABBOTT, C. N. :
Fairlawn, Southall, near London.
66. ABERNANT IRONWORKS AND COLLIERIES CO. :
Glyn Neath, Glamorganahire, South Wales.
54. ADAIR AND CO. :
Neptune Street, Liverpool.
20. ADAMS AND BROMLEY :
Victoria Works, Broad Street, Hanley.
34. ADAMS AND CO. :
56a, City Road, London.
36. ADAMS, THOMAS, AND CO., LIMITED :
Stoney Street, Nottingham.
43. ADDIS, J. B., AND SONS :
Arctic Works, Sheffield.
60. ADIE, PATRICK :
15, Pall Mall, London.
19. AIRE AND CALDER GLASS BOTTLE CO. (E. BREFFIT
AND CO.) :
83, Upper Thames Street, London.
39. AITCHISON, JAMES :
23, Princes Street, Edinburgh.
32. AKROYD, J., AND SON, LIMITED :
Halifax.
62. ALDEBERT, ISAAC :
57, 58, & 59, Long Acre, London.
64. ALDRED AND SPIELMANN :
40 & 42, Queen Victoria Street, London.
33. ALEXANDERS AND CO. :
Weensland Mills, Hawick, Scotland.
10. ALEXANDRE, J. :
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22. ALLAN, JOHN, AND SON :
Wick Lane Works, Old Ford Road, London.
45. ALLCOCK, SAMUEL, AND CO. :
Standard Works, Redditch.
47. ALLEN AND HANBURYS :
Plough Court, 87, Lombard Street, London.
74. ALLEN, FREDERICK, AND SONS :
Canal Road, Mile End, London.
37. ALLEN, SOLLY, AND CO. :
8, King Edward Street, Newgate Street, London.
14. ALLEN, THOMAS :
12, St. Augustine's Parade, Bristol.

Class.

30. ALLERTON, CHAS., AND SONS:
Park Works, Longton, Staffordshire.
54. ALLEY AND MACLELLAN:
Sentinel Works, London Road, Glasgow.
63. ALLSOPP, CHARLES WILLIAM, AND CO.:
47, Pool Street, Walsall.
38. ANDERSON, ABBOTT, AND ANDERSON:
37, Queen Victoria Street, London.
66. ANDERSON, DAVID, AND SON:
Lagan Felt Works, Belfast.
64. ANDERSON, CHRIS:
Hunslet Shed, Hunslet, Leeds.
34. ANDREW, BURROWES, AND ATKINS:
59, George Street, Manchester:
43. ANDREW, JOHN HENRY, AND CO.:
Toledo Steel Works, Neepsend, Sheffield.
31. ANDREWS, MICHAEL:
Ardoyne, Belfast.
31. ANGLO-AMERICAN ROPE AND OAKUM CO.
(STEPHENSON AND MORGAN):
72, South Castle Street, Liverpool.
75. ANGLO-BAVARIAN BREWERY CO.:
Shepton Mallet, Somerset.
43. ANGLO-RUSSIAN IRON AND TIN PLATE CO.:
18, New Bridge Street, London.
54. APPLEBY BROTHERS:
Emerson Street, Southwark, London.
37. APPELYARD, H., AND CO.:
36, Lower Sackville Street, Dublin.
67. ARMIT, R. H., R.N.:
10, Craven Street, Strand, London.
33. ARMITAGE BROTHERS:
New Street, Huddersfield.
30. ARMITAGE, ELKANAH, & SONS:
Manchester.
38. ARNOLD AND COLDWELLS:
78 and 79, North End, Croydon, Surrey.
24. ART UNION OF LONDON:
444, West Strand, London.
75. ARTHUR, J., AND CO.:
4, Nicholas Parade, Bristol.
43. ASH AND LACY:
Meriden Street, Birmingham.
43. ASHENHURST, J. T., AND CO.:
51, Cardington Street, Hampstead Road, London.
63. ASHFORD (W. AND G.) AND WINDER:
Essex and Kent Streets, Birmingham.
48. ASHTON, F. W., AND CO.:
45, Portland Street, Manchester.
30. ASHWORTH, EDMUND, AND SONS:
Egerton Mills, Bolton, Lancashire.
34. ASHWORTH, M., AND CO.:
Caldershaw Silk Mill, Rochdale.
37. ASTON, WILLIAM:
Princip Street Works, Birmingham.

Class.

- 47. ATKINSON, GEO., AND CO. :
66, Aldersgate Street, London.
- 28. ATKINSON, J. & E. :
24, Old Bond Street, London.
- 9. AUGENER AND CO. :
86, Newgate Street, London.
- 19. AURORA GLASS CO., LIMITED :
21, Litchfield Street, Soho, London.
- 12. AUTOTYPE CO. :
36, Rathbone Place, London.
- 51, 54. AVELING AND PORTER :
Rochester, Kent.
- 48. AVERY, WM., AND SON :
Headless Cross, Redditch.

B.

- 27. BACON, J. L., AND CO. :
34, Upper Gloucester Place, London.
- 19. BAGLEY, WILD, AND CO. :
Glass Works, Knottingley, Yorkshire.
- 62. BAGSHAW, FRANCIS WILLIAM :
Hill Foot Bicycle Works, Sheffield.
- 9, 10. BAGSTER, S., AND SONS :
14, King's Road, Gray's Inn Road, London.
- 60. BAILEY BROTHERS :
71, Chancery Lane, London.
- 90. BAILEY, W. AND J. A. :
Alloa, Scotland.
- 66. BAINBRIDGE AND CRIMSON :
Oakwell Gate, Gateshead-on-Tyne.
- 47. BAISS BROTHERS AND CO. :
4, Jewry Street, Aldgate, London.
- 43. BAKER, CHRISTOPHER, AND SONS :
98 and 99, Lichfield Street, Birmingham.
- 51. BAKER, JOHN :
Falcon Works, Wisbech.
- 51. BAKER, THOS. :
White Wall Iron Works, Compton, Newbury, Berks.
- 43. BALDWIN, E. P. AND W. :
Wilden Iron and Tin Plate Works, near Stourport.
- 51. BALL, WILLIAM, AND SON :
Rothwell, Northamptonshire.
- 74. BALL, JAMES :
12, Duke Street, Grosvenor Square, London.
- 67. BALLARDIE, DOUGALD :
2, West Howard Street, Glasgow.
- 75. BALLINGALL AND SON :
Pleasance Brewery, Dundee.
- 51. BAMLETT, ADAM C. :
Thirsk, Yorkshire.
- 75. BANBURY BREWERY CO. :
Bridge Street, Banbury.
- 83. BARBER, JOSHUA, AND SONS :
Huddersfield.

Class.

84. BARBOUR AND MILLER :
139, Brook Street, Mile End, Glasgow.
31. BARBOUR, WILLIAM, AND SON :
Hilden Flax Mills, Lisburn, Ireland.
43. BARFF, FREDERICK S.:
Catholic University College, Kensington, London
51. BARFORD AND PERKINS:
Queen Street Iron Works, Peterborough.
30. BARLOW AND JONES, LIMITED:
2, Portland Street, Manchester.
- 25, 85. BARNARD, BISHOP, AND BARNARDS:
Norfolk Iron Works, Norwich.
17. BARNARD, BRADLEY:
107, St. Paul's Road, Highbury, London.
72. BARNES AND CO.:
137, Upper Thames Street, London.
64. BARNES, FREDERIC:
Westwood Grange, Tylehurst, Reading.
52. BARNETT, SON, AND FOSTER:
20-23, Forston Street, Hoxton, London.
70. BARR, P. W., AND CO.:
Juniper Street, Bankhall, Liverpool.
13. BARRATT AND ROBINSON:
9a, Georgiana Street, Camden Town, London.
74. BARRINGER AND BROWN:
Rock Valley Mills, Mansfield.
31. BARRON, W. J., AND SONS:
Whitecross Street, London.
31. BARROW FLAX AND JUTE CO., LIMITED:
Barrow-in-Furness, Lancashire.
67. BARROW SHIPBUILDING CO.:
Barrow-in-Furness.
51. BARROWS AND STEWART:
Cherwell Works, Banbury.
16. BARTHOLOMEW, JOHN:
Chambers Street, Edinburgh.
- 43, 45. BARTLEET, WILLIAM, AND SONS:
Abbey Mills, Redditch.
38. BARTRUM, HARVEY, AND CO.:
23, Gresham Street, London.
47. BASHFORD, G. J. St. JOHN:
91, Rivington Street, Shoreditch, London.
56. BATEMAN, DANIEL, AND SONS:
Low Moor, near Bradford, Yorkshire.
20. BATES, WALKER, AND CO.:
Dale Hall, Burslem.
74. BATTY AND CO.:
8, Finsbury Place, London.
12. BAUDOUX, CHARLES ERNEST:
59, New Street, St. Helier's, Jersey.
37. BAUER, MRS. A. W.:
64, Oxford Street, London.
13. BAUER, GILBERT L.:
49, Tottenham Street, Tottenham Court Road, London.
38. BAXTER, RICHARD :
St. James's Green, Thirsk, Yorkshire.

Class.

- 66. BAXTER, ROBERT C.:
Hethersett, Reigate, Surrey.
- 52. BAXTER, WILLIAM HENRY :
2, The Lawn, Brixton Hill, London.
- 43. BEARDSHAW, HERBERT :
Prior Court, Sheffield.
- 19. BEAU, ADOLPHE :
56, Welbeck Street, London.
- 54. BEAUMONT, COLONEL, Royal Engineers, and BOLTON,
COLONEL :
4, Broad Sanctuary, Westminster, London.
- 58. BECK, WILLIAM HENRY :
139, Cannon Street, London.
- 47. BEDDOW, B., AND SON :
22, South Audley Street, London.
- 43. BEDFORD, JOHN, AND SONS :
Lion Works, Sheffield.
- 12. BEDFORD, WILLIAM :
326, Camden Road, London.
- 34. BEHRENS, LOUIS :
41, Portland Street, Manchester.
- 15. BELL, PROFESSOR ALEX. G.:
115, Cannon Street, London.
- 54. BELL, J. M., AND CO.:
491, Oxford Street, London.
- 26. BENNETT, SIR JOHN :
64 65, Cheapside, London.
- 43. BENNETT, THOS., AND SONS :
70 and 71, Turnmill Street, Farringdon Road, London.
- 52. BENTALL, E. H., AND CO.:
Heybridge Works, Maldon, Essex.
- 47. BERGER, LEWIS, AND SONS :
Homerton, London.
- 69. BERGER, SAMUEL, AND CO. :
Starch Works, Bromley-by-Bow, London.
- 54. BERNAYS, JOSEPH :
96, Newgate Street, London.
- 67. BERTHON BOAT CO., LIMITED :
80, Bedford Row, London.
- 17. BERTRAM AND SON :
100 and 101, Dean Street, Soho, London.
- 66. BESSBROOK GRANITE CO.:
Bessbrook, Ireland.
- 10. BEST INK CO.:
48, Edgware Road, London.
- 66. BETHELL, JOHN, AND CO. :
38, King William Street, City, London.
- 24, 26, 29. BETJEMANN, GEORGE, AND SONS :
36, 38, and 40, Pentonville Road, London.
- 75. BEVAN, JOHN JAMES :
1, Bath Terrace, Farnham, Surrey.
- 47. BEWLEY AND DRAPER :
23, Mary Street, Dublin.
- 67. BIFFEN, WILLIAM HENRY, JUN. :
7, Commercial Road, Bedford.

Class.

75. **BINDLEY AND CO. :**
The Brewery, Burton-on-Trent.
32. **BINN'S ENDLESS BAND CO., LIMITED :**
Oak Mills, Low Moor, Bradford.
33. **BIRCHALL, J. D., AND CO. :**
Wellington Street, Leeds.
34. **BIRCHENOUGH, JOHN :**
145, Cheapside, London.
43. **BIRD, WILLIAM, AND CO. :**
2, Laurence Pountney Hill, London.
36. **BIRNBAUM, BERNARD :**
21, 22, and 23, New Broad Street, London.
67. **BIRT, J. AND A. W. :**
Dock Street, London.
9. **BLACK, A. AND C. :**
Edinburgh.
64. **BLACK, HAWTHORN, AND CO. :**
Gateshead-on-Tyne.
10. **BLACKIE AND SON :**
17, Stanhope Street, Glasgow.
9. **BLACKIE, W. G., AND CO. :**
Villafield Works, Glasgow.
38. **BLACKLOCK, GOUDIE, AND CO. :**
69, Jamaica Street, Glasgow.
10. **BLACKWOOD AND CO. :**
18, Bread Street Hill, London.
9. **BLACKWOOD, W., AND SONS :**
45, George Street, Edinburgh.
60. **BLADES, EAST, AND BLADES :**
11, Abchurch Lane, City, London.
57. **BLEZARD, J., AND SONS :**
Guy Foundry, Padiham, Lancashire.
63. **BLISS, WILLIAM, AND CO. :**
13 and 15, Sun Street, Finsbury, London :
33. **BLISS, WILLIAM, AND SON :**
Chipping Norton.
75. **BOAKE AND CO. :**
Stratford, near London.
51. **BOBY, ROBERT :**
St. Andrew's Works, Bury St. Edmunds.
33. **BOGUE, LEES, AND CO. :**
Comely Bank Mill, Galashiels, Scotland.
10. **BOND, Mrs. M. A. (now HICKISSON) :**
75, Southgate Road, London.
- 31, 34. **BONSOR, CHARLES :**
Phoenix Works, Ings Road, Wakefield.
38. **BOSTOCK, EDWIN AND FREDERICK :**
Stafford and Northampton.
12. **BOUCHER, ALBERT :**
15, King's Road, Brighton.
21. **BOULINIKON FLOOR CLOTH AND MANUFACTURING CO., LIMITED :**
Worsley Street, Salford, Manchester.
85. **BOULTON AND PAUL :**
Rose Lane Works, Norwich.

Class.

62. BOURKE, SURGEON-MAJOR J. H., M.D. :
Care of Vesey W. Holt & Co., 17, Whitehall Place, London.
54. BOURNE, JOHN, AND CO. :
66, Mark Lane, London.
47. BOWDLER AND BICKERDIKE :
Eagle Chemical Works, Church, Lancashire.
54. BOWING'S PATENT FILTER PRESS CO., LIMITED :
184, Gresham House, Old Broad Street, London.
10. BOWMAN, C. :
6, King Street, Tower Hill, London.
68. BOWN, W. :
308, Summer Lane, Birmingham.
85. BOYD, JAMES, AND SONS :
Macdowall Street, Paisley.
47. BOYD, SON, AND CO. :
76, Sir John Rogerson's Quay, Dublin.
15. BOYD, —.
236, Rue de Rivoli, Paris.
66. BOYLE, ROBERT, AND SON :
100, Mitchell Street, Glasgow.
43. BRABY, FREDERICK, AND CO. :
356 to 360, Euston Road, London.
58. BRADBURY AND CO., LIMITED :
Wellington Works, Oldham.
- 52, 54. BRADFORD, THOMAS, AND CO. :
Crescent Iron Works, Salford, Manchester.
50. BRAKELL, C. :
7, Westminster Chambers, Victoria Street, London.
- 72, 74. BRAND AND CO. :
11, Little Stanhope Street, Mayfair, London.
- 12, 67. BRICE, WILLIAM A. :
Care of Clifford Poulter, 4a, Middle Temple Lane, London.
33. BRIER, GEORGE :
Canal Bridge Mills, Huddersfield.
38. BRIGHTMAN BROTHERS :
Lewin's Mead, Bristol.
18. BRINSMEAD, JOHN, AND SONS :
18, Wigmore Street, London.
21. BRINTON, JOHN, AND CO. :
Kidderminster.
62. BRISTOL WAGGON WORKS CO., LIMITED :
Lawrence Hill, Bristol.
9. BRITISH AND FOREIGN BIBLE SOCIETY :
146, Queen Victoria Street, London.
47. BRITISH AND FOREIGN MINERAL WATER CO. :
382, New City Road, Glasgow.
65. BRITISH TELEGRAPH MANUFACTORY, LIMITED :
374, Euston Road, London.
29. BRITISH XYLONITE CO., LIMITED :
124, High Street, Homerton, London.
50. BROADBENT, ROBERT, AND SON :
Phoenix Iron Works, Stalybridge.
34. BROCKLEHURST, J. T., AND SONS :
Macclesfield.

Class.

39. BROGDEN, JOHN:
16, Henrietta Street, Covent Garden, London.
38. BROOK, J. & D.:
4, Park Place, Leeds.
30. BROOK, JONAS, AND BROTHERS:
Meltham Mills, near Huddersfield.
66. BROOKE, EDWARD, AND SONS:
Fieldhouse Fire-clay Works, Huddersfield.
33. BROOKE, JAMES, AND SON:
Bradley Mills, Huddersfield.
47. BROOKE, SIMPSON, AND SPILLER:
50, Old Broad Street, London.
23. BROOKES AND CROOKES:
Atlantic Works, Sheffield.
13. BROOKS, ROBERT:
Houghton Regis, Bedfordshire.
9. BROOKS (VINCENT), DAY, AND SON:
Gate Street, Lincoln's Inn Fields, London.
47. BROOMHEAD, GEORGE E.:
11, Union Place, Aberdeen.
43. BROOMHILL COAL CO.:
Newcastle-on-Tyne.
34. BROUGH (J. AND J.), NICHOLSON, AND CO.:
Leek, Staffordshire.
54. BROUGHTON COPPER CO., LIMITED:
Broughton Copper Works, Manchester.
43. BROWN, BAYLEY, AND DIXON, LIMITED:
Steel and Iron Works, Sheffield.
54. BROWN, B. AND J., AND CO.:
89, Charlotte Street, Blackfriars Road, London.
17. BROWN BROTHERS (Late W. SCOTT MORTON AND CO.):
Caledonian Crescent, Dalry Road, Edinburgh.
33. BROWN BROTHERS:
Buckholm Mill, Galashiels.
47. BROWN, EDWARD, AND SONS:
67, Princes Street, Leicester Square, London.
68. BROWN, JOHN, AND CO., LIMITED:
Atlas Steel and Iron Works, Sheffield.
51. BROWN, J. B., AND CO.:
90, Cannon Street, London.
33. BROWN, JOHN:
Lion Mills, Bay Hall, Huddersfield.
33. BROWN, LINSTED, AND CO.:
4, Duke Street, Manchester.
13. BROWN, RICHARD, AND SON:
324, Kennington Road, London.
33. BROWN, WILLIAM, AND SONS:
Wilderbank Mills, Galashiels, Scotland.
20. BROWNHILLS POTTERY CO.:
Tunstall, Staffordshire.
12. BROWNRIGG, T. M.:
Artington House, Guildford.
20. BROWN-WESTHEAD (T. C.), MOORE, AND CO.:
Cauldon Place, Staffordshire Potteries.

Class.

9. BRUCKMANN, F.:
17, Southampton Street, Strand, London.
67. BRUNE AND CO.:
Eden Street, Hampstead Road, London.
50. BRUNTON, WM., AND CO.:
Cambrian Safety Fuse Works, Wrexham.
50. BRUNTON, AND TRIER:
Ransome's Foundry, Battersea.
38. BRYDONE AND BROWN:
Yarrow Mill, Selkirk.
52. BUCHANAN, G., AND CO.:
25, Bucklersbury, London.
45. BUCHANAN, JAMES:
58, Dale Street, Tradeston, Glasgow.
10. BUCKINGHAMSHIRE MILLBOARD CO.:
The Lower Mills, Wooburn.
33. BULL AND WILSON:
52, St. Martin's Lane, London.
66. BULLIVANT, THOS.:
104, Ledbury Road, Bayswater, London.
38. BURBIDGE AND ROWLEY:
Middle Street, Aldersgate Street, London.
51. BURGESS AND KEY:
Holborn Viaduct, London.
66. BURGH CASTLE PORTLAND CEMENT CO., LIMITED:
Burgh Castle, Great Yarmouth.
47. BURGOYNE, BURBIDGES, CYRIAX, AND FARRIES:
16, Coleman Street, London.
51. BURNARD, LACK, AND ALGER:
Plymouth.
52. BURNEY AND CO.:
Millwall Docks, London.
43. BURNHOPE COAL CO.:
Newcastle-on-Tyne.
43. BURYS AND CO., LIMITED:
Regent Works, Sheffield.
50. BUSH AND DE SOYRES:
Bristol Iron Foundry, St. Philip's, Bristol.
62. BUSH, JOHN, AND CO.:
200, Camberwell Road, London.
- 47, 74. BUSH, WILLIAM JOHN, AND CO.:
20 to 28, Artillery Lane, Bishopsgate Street, London.
21. BUTCHART, LINDSAY, AND CO.:
Linen Works, Dundee.
33. BYROM, ROBERT:
Slackcote Mills, Delph, near Manchester.

C.

Class.

18. CAIRNS, PETER :
4, Livingston Place, Portobello, near Edinburgh.
74. CALLARD AND BOWSER :
20, Finchley Road, London.
43. CAMBRIAN PATENT FUEL CO., LIMITED :
Masonic Hall Chambers, Cardiff, South Wales.
- 19, 18. CAMM BROTHERS :
41, Frederick Street, Birmingham.
68. CAMMELL, C., AND CO., LIMITED :
Cyclops Works, Sheffield.
20. CAMPBELL BRICK AND TILE CO. :
Stoke-upon-Trent.
66. CAMPBELL, HUGH, AND SON :
Moor Quarries, Newry, Ireland.
66. CANDY AND CO. :
Chudleigh Road Station, Newton Abbot, Devon.
47. CANTRELL AND COCHRANE :
Nassau Place, Dublin.
17. CAPEL, HENRY :
26, Great Titchfield St., London.
30. CARLILE, JAMES, SONS, AND CO. :
Bankend Mills, Paisley.
33. CARR, ISAAC, AND CO. :
Twerton Mills, Bath.
52. CARR, THOMAS, Trustees of the late :
39, Broad Street, Bristol.
47. CARRUTHERS AND ALLAN :
60, Robertson Street, Glasgow.
51. CARSON AND TOONE :
Wiltshire Foundry, Warminster.
52. CARTER, J. HARRISON :
82, Mark Lane, London.
35. CARTER, DUNNETT, AND BEALE :
High Holborn, London.
35. CASHMERE, MAHARAJAH OF.
Sirinaghar, Cashmere, India.
43. CASTLE IRON CO. (See NETTLEFOLDS) :
16, Broad Street, Birmingham.
75. CATTO, JAMES :
21½, Adelphi, Aberdeen.
- 29, 41. CAVE, H. J., AND SONS :
40, Wigmore Street, London.
15. CETTI, E., AND CO. :
11 and 31, Brooke Street, Holborn, London.
67. CHADBURN AND SON :
11, Waterloo Road, Liverpool.
63. CHALLEN AND SON :
20, Oxford Street, London.
69. CHAMBERLIN, JAMES :
Post Office Street, Norwich.
43. CHAMBERS, G., AND CO. :
Redditch.

Class.

47. CHAMBERS, JAMES, AND CO. :
78, Great Tower Street, London.
13. CHANOT, GEORGE :
103, Wardour Street, London.
29. CHAPMAN, SON, AND CO.:
2 and 3, Charterhouse Buildings, London.
66. CHATWOOD, SAMUEL:
120, Cannon Street, London.
66. CHEAVIN, GEORGE:
Wide Bargate Filter Works, Boston, Lincolnshire.
33. CHILD, WILLIAM:
Shelley, near Huddersfield.
70. CHRISTIE AND CO.:
Royal Mint Street, City, London.
68. CHRISTIE, WILLIAM:
85, Station Street, Walsall.
38. CHRISTY, J. E. AND W., AND CO.:
35, Gracechurch Street, London.
86. CHRISTY, THOMAS, & CO. :
155, Fenchurch Street, London.
86. CHRISTY, THOMAS, F.L.S. :
155, Fenchurch Street, London.
30. CHRISTY, W. M., AND SONS, LIMITED:
14, West Mosley Street, Manchester.
- 24, 25, 66. CHUBB AND SON:
128, Queen Victoria Street, London.
34. CLABBURN, SONS, AND CRISP:
Pitt Street, Norwich.
71. CLANCHY, T. J.:
Munster Dairies Depôt, Cork.
66. CLARK AND CO.:
Rathbone Place, Oxford Street, London.
30. CLARK AND CO.:
Anchor Mills, Paisley.
30. CLARK, J., AND CO.:
Paisley Thread Works, Paisley.
33. CLARK, JOHN AND THOMAS:
Trowbridge.
49. CLARK, SON, AND MORLAND:
Glastonbury.
43. CLARK, T. AND C., AND CO.:
Shakespeare Foundry, Wolverhampton.
68. CLARK, CAPTAIN EDWARD PODMORE:
33, Green Park, Bath.
63. CLARK, WILLIAM:
232, Oxford Street, London.
11. CLARKE, C. PURDON:
16, Earl's Court Gardens, Brompton, London.
43. CLARKE, HENRY, & CO. :
17, Gracechurch Street, London.
70. CLARKE, W. G. :
Regent's Canal, Commercial Road, Limehouse, London.

- Class.*
51, 54. CLAYTON AND SHUTTLEWORTH:
Lincoln.
34. CLAYTON, MARSDENS, HOLDEN, AND CO., LIMITED:
Wellington Mills, Halifax.
28. CLEAVER, F. S., AND SONS:
32 and 33, Red Lion Street, Holborn, London.
33. CLEGG, JESSE:
King's Head Buildings, Huddersfield.
43. CLEVELAND IRONMASTERS' ASSOCIATION, AND NORTH
OF ENGLAND IRON MANUFACTURERS' ASSOCIATION:
Royal Exchange, Middlesbrough.
66. CLIFF, JOSEPH, AND SONS:
Fire Clay Works, Wortley, Leeds.
25. COALBROOKDALE CO.:
Coalbrookdale, Shropshire.
30. COATS, J. AND P.:
Ferguslie Thread Works, Paisley.
23. COCHRANE, ADAM L., AND BROTHERS:
Netherdale, Galashiels, Scotland.
57. COCKILL, JOHN, AND SONS:
Liversedge, Yorkshire.
62. COCKSHOOT, JOSEPH, AND CO.:
Manchester.
52. CODD, HIRAM, AND CO.:
51, King William Street, City, London.
54. COHNÉ, SIGISMUND:
13, Sise Lane, London.
8. COLE, ARTHUR C., AND SON:
St. Domingo House, Oxford Gardens, Notting Hill, London.
51. COLEMAN AND MORTON:
London Road Iron Works, Chelmsford, Essex.
9. COLLINGRIDGE, W. H. AND L.:
128 and 129, Aldersgate Street, London.
18, 66. COLLINSON AND LOCK:
169, Fleet Street, London.
6. COLMAN AND GLENDENNING:
23, Warwick Lane, London.
47, 52, 69, 74. COLMAN, J. AND J.:
108, Cannon Street, London.
41. COLTMAN, WILLIAM:
332, High Street, Cheltenham.
66. COLTHURST, SYMONS, AND CO.:
Bridgewater.
43. COLVER BROS.:
Pilot Works, Sheffield.
56. COMBE, BARBOUR, AND COMBE:
Falls Foundry, Belfast.
48. COMPAGNIE HOUILLIÈRE DE GRAIGOLA:
Merthyr, Swansea.
19. CONSTABLE, WILLIAM HENRY:
The Avenue, Cambridge.
47, 51. COOK, EDWARD, AND CO.:
East London Chemical Works, Bow, London.
43. COOKE BROTHERS:
Constitution Hill, Birmingham.

Class.

50. COOKE, JOSEPH, AND CO.:
Lawley Street, Belmont Passage, Birmingham.
21. COOKE, SONS, AND CO.:
12, Friday Street, City, London.
18. COOPER, H. AND J.:
8 and 9, Great Pulteney Street, Golden Square, London.
49. COOPER, FREDERICK E.:
29, Crimscoth Street, Bermondsey, London.
62. COOPER, JAMES CHARLES:
111, Long Acre, London.
20. COPELAND, W. T., AND SONS:
160, New Bond Street, London.
36. COPESTAKE, HUGHES, CRAMPTON, AND CO.:
5, Bow Church Yard, City, London.
52. COPPARD, JOHN, AND CO.:
Albion Works, Devonshire Street, Soho, Birmingham.
51. CORBETT AND PEELE:
Perseverance Iron Works, Shrewsbury.
48. CORBETT, JOHN, M.P.:
Stoke Prior Salt Works, Bromsgrove, Worcestershire.
21. CORBIÈRE, SON, AND BRINDLE:
30, Cannon Street, London.
52. CORCORAN, WITT, AND CO.:
28, Mark Lane, London.
75. CORK DISTILLERIES' CO., LIMITED:
Morrison's Island, Cork, Ireland.
10. CORNELISSEN, L., AND SON:
22, Great Queen Street, Lincoln's Inn, London.
84. CORNES, W. W., AND CO.:
Park Mills, Macclesfield.
47. CORRY, WILLIAM, AND CO.:
Cromac Street, Belfast.
21. CORTICINE FLOOR COVERING CO.:
112, Queen Victoria Street, London.
56. COTTON, STEPHEN:
Brookfield Foundry, Belfast.
51. COULTAS, JAMES:
Perseverance Ironworks, Spittlegate, Grantham.
31. THE COUNTY DOWN FLAX SPINNING AND WEAVING CO.,
LIMITED:
Donegall Square South, Belfast.
34. COURTAULD, SAMUEL, AND CO.:
19, Aldermanbury, London.
10. COWAN, ALEXANDER, AND SON:
50, Cannon Street, London.
58. COWAN, W. AND B.:
Church Street, Millbank, London.
57. CRAIG, A. F., AND CO.:
Caledonia Engine Works, Paisley.
38. CRAIG, CHRISTIE, AND CO.:
28, Potterrow, Edinburgh.
43. CRAMLINGTON COAL CO.:
Newcastle-on-Tyne.
20. CRAVEN, DUNNILL, AND CO., LIMITED:
Jackfield Works, near Ironbridge, Salop.

Class.

80. CREWDSON, CROSSES, AND CO., LIMITED:
40, Portland Street, Manchester.
8. CRISP, EDWARDS, M.D.:
16, Beaufort Street, Chelsea, London.
67. CRISPIN, WILLIAM HENRY:
Marsh Gate Lane, Stratford, London.
84. CRITCHLEY, BRINSLEY, AND CO.:
Macclesfield.
10. CROMITON, JAMES R.:
Elton Paper Mills, Bury, Lancashire.
72. CROSSE AND BLACKWELL:
21, Soho Square, London.
56. CROSSLEY (JOHN) AND SONS, LIMITED:
Dean Clough Mills, Halifax, Yorkshire.
15. CROUCH, HENRY:
66, Barbican, London.
39. CROUCH, JOSEPH M.:
208 and 221, Regent Street, London.
39. CROUCH, WM. ALBERT:
264, Regent Street, London.
52. CROWLEY, JOHN, AND CO.:
Meadow Hall Ironworks, Sheffield.
28. CROWN PERFUMERY CO. (W. S. THOMSON):
177, New Bond Street, London.
66. CUBITT, WILLIAM, AND CO.:
258, Grays' Inn Road, London.
67. CUNARD, BURNS, AND MAC IVER:
8, Water Street, Liverpool.
38. CUNNINGHAM (ALEXANDER) AND CO.:
230, Leith Walk, Edinburgh.
67. CUNNINGHAM, SHAW, AND CO.:
24, Water Street, Liverpool.
74. CURR, THOMAS:
7, School Hill, Aberdeen.
38. CURRIE, WILLIAM, AND CO.:
Dalry Road, Edinburgh.
66. CWMORTHIN SLATE CO., LIMITED:
Portmadoc, North Wales.

D.

80. DACCA TWIST CO.:
96-104, Portland Street, Manchester.
48. DALGLISH (R.), FALCONER, AND CO.:
Glasgow.
- 12, 15. DALLMEYER, JOHN HENRY:
19, Bloomsbury Street, London.
33. DALZIEL, JAMES, AND CO.:
Tweedholm Mill, Walkerburn, Scotland.
39. DAMON, ROBERT:
4, Pulteney Buildings, Weymouth.
10. DANE AND CO.:
33, Bouverie Street, London.

Class.

9. DANGERFIELD, FREDERICK :
22, Bedford Street, Covent Garden, London.
20. DANIELL, A. B., AND SON:
46, Wigmore Street, London.
8. DARRAGH, THOMAS:
7, College Square North, Belfast.
15. DARTON, F., AND CO.:
45, Saint John Street, West Smithfield, London.
51. DAVEY, PAXMAN, AND CO.:
Colchester.
52. DAVIES AND SNEADE:
19 and 21, Cheapside, Liverpool.
50. DAVIES, DAVID:
Viaduct Works, Crumlin, near Newport, Mon.
63. DAVIS AND WILSON:
37 and 38, Sun Street West, Birmingham.
52. DAVIS'S EXCELSIOR KNIFE CLEANING MACHINE CO.:
69, Leadenhall Street, London.
23. DAVIS, J. C.:
69, Leadenhall Street, London.
31. DAWSON, MARK, AND SON:
Springhead Mills, Bowling, Bradford.
34. DEAN, WILLIAM, AND SON:
Monk Street Mills, Derby.
37. DEBENHAM AND FREEBODY:
27, 29, 31, Wigmore Street, London.
49. DEED, JOHN S., AND SONS:
451, Oxford Street, London.
52. DELL, W. R., AND SON:
26, Mark Lane, London.
66. DE MICHELE, VICTOR D.:
Cliffe Creek, Rochester.
33. DENHAM, W., AND CO.:
Britannia Mills, Colne Road, Huddersfield.
51. DENTON, HENRY:
St. Peter's Ironworks, Wolverhampton.
36. DE ROTHSCHILD, LADY:
Tring Park, Tring, Hertfordshire.
47. DESOTO ALKALI CO., LIMITED:
Widnes, Lancashire.
43. DEVON GREAT CONSOLS CO., LIMITED:
184, Gresham House, Old Broad Street, City, London.
30. DEWHURST, JOHN, AND SONS:
Belle Vue Mills, Skipton.
54. DEWRANCE, JOHN, AND CO.:
176, Great Dover Street, Southwark, London.
43. DIAMOND FUEL CO., LIMITED:
23, Old Broad Street, London.
50. DIAMOND ROCK BORING COS. OF LONDON:
4, Broad Sanctuary, Westminster, London.
74. DICKINSON BROTHERS AND CO.:
4, Fenchurch Buildings, London.
45. DICKSON, WILLIAM, AND CO.:
Gilmore Park, West Fountainbridge, Edinburgh.

Class.

39. DIXIE, MRS. MARGARET:
18, Wilmington Square, London.
49. DIXON, JOHN, SONS, AND TAYLOR:
Manning Street, Bermondsey, London.
56. DOBSON AND BARLOW:
Kay Street Works, Bolton.
54. DOBSON, THOMAS SAMUEL, AND CO.:
Stoney Street, Nottingham.
54. DODMAN, ALFRED:
St. James's Iron Works, King's Lynn.
33. DODGSHUN, ISAAC, AND CO.:
86, Basinghall Street, Leeds.
15. DOLLOND AND CO.:
1, Ludgate Hill, London.
32. DONISTHORPE, A. R.:
Leicester.
32. DORRINGTON, B., AND CO.:
42 & 43, Gutter Lane, London.
- 20, 66. DOULTON AND CO.:
High Street, Lambeth, London.
- 20, 53, 66. DOULTON AND WATTS:
Lambeth Pottery, London.
- 20, 66. DOULTON, H., AND CO.:
High Street, Lambeth, London.
- 46, 85. DRAPER, JOHN:
22, Great Winchester Street, London.
13. DREAPER, W. H. AND G. H.:
96, Bold Street, Liverpool.
42. DRISCOLL, HENRY:
Steam Mills, Baron Street, Pentonville, London.
61. DUGGAN, THOMAS:
Howth View, Glasnevin, Dublin.
66. DUNBALL STEAM POTTERY TILE AND BRICK CO.:
Dunball, Bridgewater.
67. DUNLOP, R. H. WALLACE, C.B.:
12, Kent Gardens, Ealing, Middlesex.
66. DUNNACHIE, JAMES:
Glenboig Star Fire-brick Works, near Coatbridge, Scotland.
10. DUNN AND CO.:
81, Bouverie Street, Fleet Street, London.
74. DUNN AND HEWETT:
136, Pentonville Road, London.
75. DUNVILLE AND CO.:
Belfast, Ireland.
52. DUVALLOON AND LLOYD:
Atlas Works, Oozell Street, Birmingham.
33. DYSON, JOSEPH, AND SONS:
Huddersfield.

E.

59. EAGLES, THOMAS D.:
23, Fenchurch Street, London.
67. EAST AND WEST INDIA DOCK CO. (J. L. DU PLAT TAYLOR,
Secretary):
Dock House, Billiter Square, London.

- Class.**
52. EASTWOOD, JAMES, AND CO., LIMITED:
 Bold Street, Preston, Lancashire.
- 18. EBBUTT, ALFRED C.:**
 (Opposite the Town Hall), Croydon, Surrey.
- 38. EDDISON, THOMAS:**
 Junction Works, Whitehall Road, Leeds.
- 64. EDGE, CHARLES A.:**
 21, Bennett's Hill, Birmingham.
- 41. EDGINGTON, BENJAMIN:**
 2, Duke Street, London Bridge, London.
- 69. EDMUNDS AND CATER:**
 88, Craven Road, Bayswater, London.
- 66. EDWARDS, GEORGE:**
 147, Brompton Road, London.
- 90. EDWARDS, JOHN:**
 King Street, Fenton, Staffordshire.
- 54. EDWARDS, WILLIAM JOHN:**
 20, Market Place, Manchester.
- 40. ELEY BROTHERS, LIMITED:**
 254, Gray's Inn Road, London.
- 24. ELKINGTON AND CO.:**
 Newhall Street, Birmingham.
- 12. ELLIOTT AND FRY:**
 55, Baker Street, London.
- 64. EMBLETON, MACKENZIE, AND CO.:**
 10, Arthur Street, London Bridge, London.
- 12. ENGLAND, WILLIAM:**
 7, St. James's Square, Notting Hill, London.
- 9. ENOCH AND SONS:**
 19, Holles Street, Cavendish Square, London.
- 10. ERHARDT, H., AND CO.:**
 9, Bond Court, Walbrook, London.
- 30. ERMEN AND ROBY:**
 7, Southgate, Manchester.
- 52. ETZENSBERGER, ROBERT U.:**
 The Midland Grand Hotel, London.
- 34. EVANS, DAVID, AND CO.:**
 1, Wood Street, Cheapside, London.
- 43. EVANS, D., AND H. C.:**
 Ferryside Chambers, Swansea.
- 49. EVANS, P. AND S., AND CO.:**
 Avonside Tannery, Bristol.
- 75. EVANS, RICHARD, AND CO.:**
 Wrexham.
- 30. EVANS, WALTER, AND CO.:**
 Boar's Head Cotton Manufactory, Derby.
- 43. EVANS, EDWARD:**
 Blue Stone Quarry, Nantglyn, Denbigh, North Wales.
- 47. EVERETT AND CO.:**
 51, Fetter Lane, London.
- 43. EVERITT, ALLEN, AND SONS:**
 Kingston Metal Works, Birmingham.
- 66. EWART, RICHARD:**
 Ravensthorpe, Yorkshire.

F.

Class.

54. FAIJA, HENRY :
4, Great Queen Street, Westminster, London.
56. FAIRBAIRN, KENNEDY, AND NAYLOR :
Leeds.
64. FAIRLIE ENGINE CO. :
Palace Chambers, Victoria Street, Westminster, London.
27. FALKIRK IRON CO. :
67, Upper Thames Street, London.
35. FARMER AND ROGERS :
171, Regent Street, London.
51. FARMER, THOMAS, AND CO. :
Dunster House, Mark Lane, London.
12. FAULKNER, ROBERT, AND CO. :
21, Baker Street Portman Square, London.
47. FAYOLLE, GUSTAVE :
47, Mark Lane, London.
27. FEETHAM, MARK, AND CO. :
9, Clifford Street, Bond Street, London.
75. FERGUSON AND SON :
116, Broad Street, Reading.
30. FERGUSON BROTHERS :
Holme Head Works, near Carlisle.
39. FETHERSTON, JOHN J. :
2, Coppinger's Row, Dublin.
38. FIELD AND SONS :
113-115, Fore Street, City, London.
66. FINCH, JOHN :
9, Buckingham Street, Strand, London.
12. FISK, ALFRED S. :
St. John Street, Woodbridge, Suffolk.
38. FLATAU, A. AND W., AND CO. :
Ropemaker Street, Finsbury, London.
10. FLEMING, A. B., AND CO. :
Caroline Park, Edinburgh.
10. FLETCHER, R., AND SON :
Kersley Paper Works, Stoneclough, near Manchester.
49. FLITCH, J. J., AND SON :
Springwell Leather Works, Buslingthorpe, Leeds.
18. FOLEY, ARTHUR :
Fisherton Cabinet Works, Salisbury.
85. FOLLOWS AND BATE :
Dutton Street Works, Manchester.
74. FONDCLAIR BROTHERS :
Putney Hills, Madras, Madras.
47. FORSTER AND GREGORY :
Lonesome Chemical Works, Streatham Common, near London.
32. FOSTER, JOHN, AND SON :
Black Dike Mills, Queensbury, near Bradford.
32. FOSTER, WILLIAM AND HENRY :
Denholme Mills, near Bingley, Yorkshire.

Class.

19. FOURACRE (J. T.), AND WATSON:
Stonehouse, Plymouth, Devon.
- 50, 51. FOWLER, JOHN, AND CO.:
71, Cornhill, London.
43. FOX, CHARLES, AND SON:
15, Old Change, Cannon Street, London.
85. FOX, J. CAVEN:
Royal Horticultural Gardens, South Kensington, London.
64. FOX, WALKER, AND CO.:
Atlas Engine Works, Bristol.
- 39, 45. FRANCATI AND SANTAMARIA:
65, Hatton Garden, London.
66. FRANCIS AND CO.:
Bridge Foot, Vauxhall, London.
43. FRANCIS, THOMAS, AND CO.:
Lion Nail Works, Sparkbrook, Birmingham.
33. FRASER AND SMITH:
Church Street, Inverness.
26. FRODSHAM, G. E.:
31, Gracechurch Street, London.
49. FROST, EDWIN:
197, Upper Thames Street, London.
74. FRY, J. S., AND SONS:
12, Union Street, Bristol.
12. FRY, SAMUEL:
9, Surbiton Park Terrace, Kingston-on-Thames.
50. FUSSELL, JAMES, SONS, AND CO.:
Mells Ironworks, near Frome, Somerset.
38. FYFE AND ROBINSON:
9 and 10, Maidenhead Court, Aldersgate Street, London.

G.

14. GABRIEL, MESSRS.:
72, Ludgate Hill, London.
64. GAGE, THOMAS:
53, Tindal Street, Bishop's Road, North Brixton, London.
54. GALLOWAY, W. AND J., AND SONS:
Knott Mill Iron Works, Manchester.
- 59, 66. GARDNER, A., AND SON:
36, Jamaica Street, Glasgow.
- 20, 27, 36. GARDNER, JOHN, AND SONS:
453 and 454, Strand, London.
- 51, 54. GARRETT, RICHARD, AND SONS:
Leiston Works, Saxmundham, Suffolk.
17. GARRETT, RHODA AND AGNES:
2, Gower Street, London.
52. GERAUT, E., AND CO.:
1 and 2, Corporation Buildings, Farringdon Road, London.
47. GERBARD, A. W.:
153, Liverpool Road, London.
71. GEYELIN AND CO.:
Belgrave House, Argyle Square, London.

Class.

53. GIBBONS, B., JUN.:
Lower Gornal, near Stourbridge.
40. GIBBS, G.:
29, Corn Street, Bristol.
51. GIBBS, JAMES, AND CO.:
16, Mark Lane, London.
34. GIBSON, S., JUN.:
Wellington Mill, Leek, Staffordshire.
39. GIBSON, WILLIAM:
Donegall Place, Belfast.
47. GIDNEY, CLARK, AND CO.:
West Ham Abbey, Stratford, near London.
51. GILBERT, WILLIAM:
Shippon, Abingdon, Berkshire.
10. GILLOTT, JOSEPH, AND SONS:
Victoria Works, Graham Street, Birmingham.
17. GILLOW AND CO.:
176, Oxford Street, London.
33. GLEDHILL, THOMAS:
Golcar, near Huddersfield.
66. GLENBOIG FIRE CLAY CO.:
68, Bath Street, Glasgow.
47. GLOVER, HENRY, SON, AND CO., LIMITED:
Hammerton Street Works, Leeds Road, Bradford.
43. GLOVER, WILLIAM, JAMES, AND CO.:
St. Helen's Lancashire.
12. GODBOLD AND BASEBE:
8, Grand Parade, St. Leonards-on-Sea.
39. GOGGIN, JEREMIAH:
74, Grafton Street, Dublin.
62. GOLD, HENRY:
Castle Carriage Works, Francis Road, Windsor.
47. GOLDING, DAVIS, AND CO., LIMITED:
Marsh Alkali Works, Widnes, Lancashire.
66. GOLDSWORTHY, T., AND SONS:
Heine, Manchester.
56. GOODALL, A., AND SONS:
Clifton Bridge Mills, Brighouse, Yorkshire.
- 10, 61. GOODALL, CHARLES, AND SON:
24, Great College Street, Camden Town, London.
20. GOODE, THOMAS, AND CO.:
19, South Audley Street, London.
43. GORDON, A. M'C., AND CO.:
59 to 61, Bridgewater Street, Liverpool.
51. GOULDING, W. AND H. M., LIMITED:
Dublin.
66. GRAHAM, S. J. CROOK, AND CO. (Executors of the late):
Premier Street, Boothtown, Halifax.
69. GRANT, JOHN:
Craig Mills, Strathmartine, by Dundee.
66. GRANT, ROBERT:
9, Tolbooth Wynd, Peterhead, Scotland.
40. GRANT, STEPHEN:
67A, St. James's Street, London.

Class.

43. GRANVILLE, THE EARL:
Shelton Colliery and Iron Works, Stoke-upon-Trent.
9. GRAPHIC, PROPRIETORS OF THE:
190, Strand, London.
14. GRAY, JOSEPH, AND CO.:
Truss Works, New George Street, Moor, Sheffield.
43. GREAT WESTERN COLLIERY CO.:
35, West Bute Street, Cardiff.
60. GREAVES, WILLIAM:
Vincent Machine Works, Gelderd Road, Leeds.
74. GREEN AND STEMBRIDGE:
54 and 55, Cornwall Road, Lambeth, London.
54. GREEN, EDWARD, AND SON:
Economiser Works, Wakefield.
- 19, 20. GREEN, JAMES, AND NEPHEW:
107, Queen Victoria Street, London.
17. GREEN, CHARLES:
2, Bank Street, Sheffield.
11. GREEN, JAMES:
20, Moore Street, Chelsea, London.
74. GREEN, JOHN:
12, Graham Terrace, Ridley Road, Kingaland, London.
40. GREENER, W. W.:
St. Mary's Square, Birmingham.
80. GREENHALGH AND SONS:
Field Mill, Mansfield.
43. GREENING, N., AND SONS:
Warrington.
81. GREENMOUNT SPINNING CO.:
44, Upper Queen Street, Belfast.
14. GREENWAY, HENRY (Surgeon):
Ham Street, Plymouth.
58. GREENWOOD AND BATLEY:
Albion Works, Leeds.
18. GREGORY AND CO.:
212, Regent Street, London.
47. GRIFFITHS, FLETCHER, AND BERDOE:
107, Cannon Street, London.
21. GRIMOND, I. AND A. D.:
Bow Bridge Works, Dundee.
46. GRIST BROTHERS:
Marshall's Buildings, Upperhead Row, Huddersfield.
10. GROSVENOR, CHATER, AND CO.:
68, Cannon Street, London.
34. GROUT AND CO.:
12, Foster Lane, London.
15. GRUBB, HOWARD:
Rathmines, Dublin.
46. GRUNEBaum, JOSEPH:
45, Old Bond Street, London.
54. GUY, HENRY A., AND CO.:
11, Cloak Lane, Cannon Street, London.
31. GUYNET, L. H., AND CO.:
10, Chichester Street, Belfast.

Class.

54. GWYNNE AND CO.:
Essex Street Works, Strand, London.
54. GWYNNE, JOHN AND HENRY:
89, Cannon Street, London.

H.

57. HACKING AND CO.:
Lord Street, Bury, Lancashire.
54. HADFIELD STEEL FOUNDRY CO.:
Attercliffe, Sheffield.
34. HADWEN, JNO., AND SONS:
Kebroyd Mills, near Halifax, Yorkshire.
33. HAIGH, GEORGE:
Brook Mills, Slaithwaite, near Huddersfield.
65. HALE-MACDONALD WAR ROCKET CO.:
4, Bridge Chambers, 171, Queen Victoria Street, London.
32. HALEY, ALFRED, AND CO.:
Bradford, Yorkshire.
72. HALFORD, JAMES V.:
12, Upper Saint Martin's Lane, London.
51. HALL, A. W., AND CO.:
Redbridge Chemical Works, 17, Above Bar, Southampton.
30. HALL, RALPH, AND CO.:
15, Chorlton Street, Portland Street, Manchester.
67. HALL, JULIUS:
90, Chancery Lane, London.
30. HALL, LAWRENCE:
53, Mosley Street, Manchester.
57. HALL, ROBERT:
Hope Foundry, Bury, Lancashire.
18. HALL, THOMAS:
8, George Street, Edinburgh.
46. HALL, THOMAS HENRY:
Bright Mill, Batley.
56. HALLAM BROTHERS:
Ecclesfield, near Sheffield.
66. HAMBLET, JOSEPH:
Piercy Brickworks, West Bromwich, Staffordshire.
66. HAMILTON, JAMES:
67, Yorkshire Street, Rochdale, Lancashire.
14. HAMILTON, WILLIAM:
45 and 46, Ship Street, Brighton, Sussex.
6. HAMMER, GEORGE M.:
370, Strand, London.
52. HANCOCK, F. AND C.:
Dudley, Worcestershire.
49. HANDFORD-GREATREX AND BROTHER:
Whittimere Street, Walsall.
50. HAND-POWER ROCK DRILL CO.:
63, Queen Victoria Street, London.
9. HANHART, M. AND N.:
83, Charlotte Street, Fitzroy Square, London.
42. HANKS, J., AND SON:
Chameleon Villas, Colchester Road, Walthamstow, Essex.

Class.

- 19, 25. HARDMAN, JNO., AND CO.:
Newhall Hill, Birmingham.
21. HARE, JOHN, AND CO.:
Temple Gate, Bristol.
12. HARE, GEORGE:
26, Calthorpe Street, London.
33. HARGREAVE AND NUSSEYS:
Boar Lane, Leeds.
53. HARGREAVES AND ROBINSON:
Victoria Road, Widnes, Lancashire.
38. HARGROVES, R. A. AND J., AND CO.:
41, Charterhouse Square, London.
43. HARLAND, J. W.:
49, Essex Street, Strand, London.
85. HARLOW, BENJAMIN:
Macclesfield, Cheshire.
- 43, 66. HARPER AND MOORES:
Stourbridge.
- 14, 27. HARRIS, GEORGE HENRY:
Bristol Street, Birmingham.
43. HARRISON, AINSIE, AND CO.:
Newland Furnace, Ulverston, Lancashire.
51. HARRISON, MCGREGOR, AND CO.:
Albion Foundry, Leigh, Lancashire.
62. HARRISON, R., AND SON:
1, Stanhope Street, Euston Road, London.
66. HARRISON, GEORGE KING:
The Lye and Brettell Lane Works, Stourbridge.
24. HART, SON, PEARD AND CO.:
53, Wych Street, Strand, London.
85. HARTLEY AND SUGDEN:
Atlas and Premier Works, Halifax, Yorkshire.
50. HATHORN AND CO.:
30, Charing Cross, London.
54. HATHORN, DAVIS, AND DAVEY:
Sun Foundry, Leeds.
43. HATTERSLEY, E. J., AND CO., LIMITED:
Peacroft, Sheffield.
57. HATTERSLEY, GEORGE, AND SONS:
North Brook Works, Keighley, Yorkshire.
43. HATTON, SONS, AND CO.:
Broadwaters Iron and Tin Plate Works, Kidderminster.
6. HAWES, GEORGE E.:
Chapel Field, Norwich.
63. HAWKINS, JOHN, AND CO.:
Station Street, Walsall.
30. HAWKINS, JOHN, AND SONS:
8, Faulkner Street, Manchester.
43. HAYES, CROSSLEY, AND CO.:
153, Cheapside, London.
62. HAYES, HENRY, AND SON:
Stamford and Peterborough.
62. HAYNES AND JEFFERIS:
Ariel Works, Spon Street, Coventry.

Class.

- 54. HAYNES, THOMAS, AND SONS:
227, 229, 231, Edgware Road, London.
- 67. HEAD, WRIGHTSON, AND CO.:
Teesdale Iron Works, Stockton-on-Tees.
- 12. HEATH, VERNON:
48, Piccadilly, London.
- 18, 36. HEATON, JOHN ALDAM:
29, Bloomsbury Square, London.
- 12. HEDGES, DAVID:
7, Queen Street, Lytham.
- 15. HEDLEY, F. H.:
Marrianen-Gasse, 32, Vienna.
- 42. HELY, ALFRED A.:
194, South Lambeth Road, London.
- 47. HEMINGWAY, S., AND CO.:
Trafalgar Street, Bradford, Yorkshire.
- 18. HEMINGWAY AND THOMAS:
Victoria Road, Kentish Town, London.
- 17. HEMS, HARRY:
83, Paris Street, Exeter.
- 21. HENDERSON AND CO.:
Durham.
- 62. HENDERSON, JAMES, AND CO.:
60, 62, 64, North Street, Glasgow.
- 12. HENDERSON, ALEXANDER L.:
49, King William Street, City, London.
- 75. HENLEY AND SON:
Joiner Street, Tooley Street, Southwark, London.
- 40. HENRY, ALEXANDER:
12, South Saint Andrew Street, Edinburgh.
- 38. HEPWORTH, B., AND SONS:
New Wakefield Mills, Dewsbury.
- 33. HEWITT AND KEMP:
Innox Mill, Trowbridge, Wiltshire.
- 61. HEWITT, JOHN, AND CO.:
Cambridge Street Works, Sheffield.
- 37. HICK, WILLIAM:
37, Kirkgate, Huddersfield, Yorkshire.
- 10. HICKISSON, Mrs. M. A. (late BOND):
75, Southgate Road, London.
- 43. HIGGIN, THOMAS:
33, Tower Buildings, Liverpool.
- 34. HILDITCH, G. and J. B.:
11, Cheapside, London.
- 51. HILL AND SMITH:
Brierley Hill, near Dudley.
- 56. HILL, CHARLES E., AND CO.:
119, St. Vincent Street, Glasgow.
- 18. HILLIER, JAMES:
12, King's Road, Camden Town, London.
- 51, 54. HINDLEY, EDMUND SAMUEL:
Bourton, Dorset.
- 10. HINKS, WELLS, AND CO.:
Buckingham Street, Birmingham.

Class.

66. HITCHINS, RICHARD WILLIAM:
9, Devonshire Place, Stoke Newington Green, London.
66. HOBBS, HART, AND CO.:
76, Cheapside, London.
24. HODD, R., AND SON:
30, Hatton Garden, London.
19. HODGETTS, RICHARDSON, AND SON:
Wordsley Glass Works, Stourbridge.
47. HODGSON AND SIMPSON:
Calder Soap Works, Wakefield.
57. HODGSON, GEORGE:
Thornton Road, Bradford.
49. HOLDEN, EDWARD THOMAS:
Walsall.
62. HOLLAND AND HOLLAND:
254, Oxford Street, London.
18. HOLLAND AND SONS:
28, Mount Street, Grosvenor Square, London.
30. HOLLAND, WM., AND SONS:
Victoria Mills, Miles Platting, Manchester.
66. HOLLICK AND CO.:
Portland Cement Works, Greenwich, London.
69. HOLLINGTON, JOSEPH:
Spice Mills, Wolverley, Kidderminster.
- 21, 34. HOLME, GEORGE:
37, Booth Street, Bradford.
51. HOLMES AND SONS:
Prospect Place Works, Norwich.
62. HOLMES, H. AND A.:
38, Margaret Street, Cavendish Square, London.
17. HOLMES, W. M.:
101, Dean Street, Soho, London.
63. HOLMES, CHARLES:
London Road, Derby.
63. HOLMES, GEORGE EDWARD:
London Road, Derby.
63. HOLMES, HERBERT M., JUN.:
London Road, Derby.
75. HOLMES, JOSEPH:
Crown Chemical Works, Crown Street, Leeds.
- 11, 19. HOLT, FRANK:
St. John's, Warwick.
- 65, 67. HOMFRAY AND CO.:
7, Great Winchester Street Buildings, City, London.
71. HOOKER'S CREAM MILK CO., LIMITED:
Shardlow, Derbyshire.
71. HOOKER, J.:
104, Upper Thames Street, London.
33. HOOPER, CHAS., AND CO.:
Eastington Mills, Stonehouse, Gloucestershire.
20. HOPE AND CARTER:
Fountain Place, Burslem, Staffordshire.
54. HOPKINSON, J., AND CO.:
Britannia Works, Huddersfield.

Class.

13. HOPKINSON, J. AND J.:
235, Regent Street, London.
62. HOPTON AND SONS:
67, George Street, Euston Square, London.
63. HOPTON, THOMAS W. :
Collingwood Works, Broadwall, London.
15. HORNE AND THORNTWHAITE :
416, Strand, London.
51. HORNSBY, RICHARD, AND SONS:
Spittlegate Iron Works, Grantham, Lincolnshire.
30. HOBROCKSES, MILLER, AND CO.:
9, Bread Street, London.
29. HORSEY, J. G., AND CO. :
Copperfield Row, Bow, London.
48. HOUGHTON, JAMES, AND SON:
Townsend Wire Mills, Turner Street, Warrington, Lancashire.
48. HOUGHTON, W. D.:
Sankey Wire Mills, Warrington.
- 54, 61. HOUSE, HENRY, AND CO.:
31, Ludgate Hill, London.
56. HOWARD AND BULLOUGH:
Globe Works, Accrington, Lancashire.
17. HOWARD AND SONS:
25, 26, 27, Berners Street, Oxford Street, London.
51. HOWARD, JAMES AND FREDERICK:
Britannia Ironworks, Bedford.
64. HOWARTH, RICHARD:
26, Virginia Street, Southport.
58. HOWE MACHINE CO., LIMITED:
46 and 48, Queen Victoria Street, London.
- 20, 36. HOWELL, JAMES, AND CO.:
5, 7, and 9, Regent Street, London.
62. HOWES AND SONS:
City Steam Carriage Works, Chapel Field, Norwich.
62. HOWES, HENRY WILLIAM:
Prince of Wales Road, Norwich.
66. HOWORTH, JAMES:
Victoria Works, Farnworth, near Manchester.
33. HUDSON, SYKES, AND BOUSFIELD:
Springfield Mills, Morley, Leeds.
47. HUDSON, ROBERT S.:
Royal Chemical Works, West Bromwich.
64. HUGHES' LOCOMOTIVE AND TRAMWAY ENGINE CO.,
LIMITED:
Falcon Works, Loughborough.
50. HUMBLE, STEPHEN:
61, Uttoxeter New Road, Derby.
51. HUMPHRIES, EDWARD:
Atlas Iron Works, Pershore, Worcestershire.
51. HUNT AND TAWELL:
Atlas Works, Earls Colne, near Halstead, Essex.
67. HUNTER AND ENGLISH :
Bow Road, London.
66. HUNTER, JAMES:
209, King Street, Aberdeen.

Class.

70. HUNTLEY AND PALMERS:
Reading.
47. HURLET AND CAMPSIE ALUM CO.:
115, Wellington Street, Glasgow.
47. HUTCHISON, ROBERT:
Springvale Oil Mills, Cowlares, Glasgow.
10. HYDE AND CO.:
25, St. Bride Street, Ludgate Circus, London.
49. HYDE, ARCHER, AND CO.:
9, Paternoster Buildings, Newgate Street, London.
54. HYDRAULIC ENGINEERING CO., LIMITED:
Chester.

I

60. ILLUSTRATED LONDON NEWS:
198, Strand, London.
43. IMPERIAL WIRE CO. (See NETTLEFOLDS):
16, Broad Street, Birmingham.
33. INCORPORATED CHAMBER OF COMMERCE WOOLLEN
MANUFACTURERS' ASSOCIATION:
Huddersfield.
75. IND, COOPE, AND CO.:
Burton-on-Trent.
56. INGHAM, JOHN, AND SONS:
Thornton, near Bradford.
47. INMAN BROTHERS:
Aspley Place, Huddersfield.
67. INMAN STEAMSHIP CO., LIMITED:
23, Water Street, Liverpool.
56. IRVIN AND SELLERS:
Preston, Lancashire.
13. IVORY, H. A., AND CO.:
Wood Green, London.

J.

55. JACKSON AND BROTHER:
Wharf Foundry, Bolton.
17. JACKSON AND GRAHAM:
30 to 33, Oxford Street, London.
18. JACKSON, GEORGE, AND SONS:
49, Rathbone Place, London.
34. JACKSON, J., AND F.:
Sutton Mills, Macclesfield.
45. JACOB, B.:
21, Houndsditch, London.
17. JACOBY, JULIUS:
52, Regent Street, London.
29. JACQUES, ZACHARIA:
6, Upper Abbey Street, Dublin.
31. JAFFE BROTHERS:
Belfast.

Class.

- 47, 69. JAMES, EDWARD, AND SONS:
Sutton Road, Plymouth.
14. JAMIESON, W. AND J.:
10, Broad Street, Golden Square, London.
65. JAMIESON, ANDREW:
Eastern Telegraph Co., 66, Old Broad Street, London.
47. JARRATT BROTHERS:
Jesse Street, Manchester Road, Bradford.
51. JEFFERY AND BLACKSTONE:
Stamford, Lincolnshire.
- 18, 22. JEFFREY AND CO.:
64, Essex Road, Islington, London.
18. JEFFREYS, CHARLES:
103, Hatton Garden, London.
19. JENKINSON, ALEXANDER:
10, Princes Street, Edinburgh.
- 11, 29. JENNER AND KNEWSTUB:
33, St. James's Street, London.
66. JENNINGS, GEORGE:
Palace Wharf, Stangate, London.
19. JENNINGS, PAYNE:
Elm Grove, Rosendale Villas, West Dulwich, London.
47. JENNINGS, THOMAS:
Chemical Works, Cork, Ireland.
47. JENSON AND NICHOLSON:
65, Goswell Road, London.
43. JESSOP, W., AND SONS, LIMITED:
Brightside Works, Sheffield.
43. JOHNSON, CLAPHAM, AND MORRIS:
24 and 26, Lever Street, Manchester.
30. JOHNSON (JABEZ) AND FILDES:
44, Spring Gardens, Manchester.
66. JOHNSON, J. C., AND Co:
25, Great Tower Street, London.
53. JOHNSON, MATTHEY, AND CO.:
Hatton Garden, London.
33. JOHNSTON, JAMES, AND CO.:
New Mill, Elgin, Scotland.
16. JOHNSTON, W., AND A. K.:
4, St. Andrew Square, Edinburgh.
17. JOHNSTONE, JEANES, AND CO.:
67, New Bond Street, London.
43. JONAS, MEYER, AND COLVER:
Continental Steel Works, Sheffield.
24. JONES AND WILLIS:
Temple Row, Birmingham.
17. JONES, H. BENICE:
9, New Burlington Street, London.
69. JONES, ORLANDO, AND CO.:
York Road, Battersea, London.
33. JONES, PRYCE:
Newtown, North Wales.
29. JONES, THOMAS:
41, St. James's Street, London.

Class.

43. JOWITT, THOMAS, AND SONS :
Scotia Steel Works, Sheffield.
60. JUDD AND CO.:
St. Andrew's Hill, City, London.
62. JULIAN, HENRY:
Bow Street, Bolton.

K.

35. KASHMIR, HIS HIGHNESS THE MAHARAJAH OF:
Srinagar, Kashmir, India.
34. KAY AND RICHARDSON:
39, Gutter Lane, London.
51. KEARSLEY, GEORGE :
British Iron and Implement Works, North Street, Ripon.
- 69, 74. KEEN, ROBINSON, BELLVILLE, AND CO.:
6, Garlick Hill, London.
51. KELL, MEATS, AND CO.:
Barton Foundry, Gloucester.
49. KELLY AND DUNN:
51-54, Watling Street, Dublin.
61. KENNEDY'S PATENT WATER METER CO., LIMITED:
Kilmarnock, Scotland.
48. KENRICK, ARCHIBALD, AND SONS :
West Bromwich.
29. KENT, G. B., AND CO.:
11, Great Marlborough Street, London.
27. KERR, EDWARD, JUN.:
66, Manor Street, Dublin.
8. KESSELMAYER, CHARLES A.:
1, Peter Street, Manchester.
19. KILNER BROTHERS:
Great Northern Goods Station, King's Cross, London.
75. KINAHAN AND CO.:
20, Great Titchfield Street, Oxford Street, London.
66. KINCAID, JOSEPH, C.E.:
11, Great George Street, Westminster, London.
66. KING BROTHERS :
Fire-clay and Brick Works, Stourbridge.
10. KING, SON, AND WHITAKER :
4 and 5, Old Bailey, London.
62. KING, WILLIAM:
Battlesden Steam Carriage Works, Leighton Buzzard.
66. KINSMAN, REV. PREBENDARY:
Tintagel, near Camelford, Cornwall.
16. KIPS, JOHN JOSEPH:
14, Moore Street, Brompton, London.
43. KIRBY, BEARD, AND CO.:
18, Cannon Street, London.
47. KIRBY, H. AND T., AND CO.:
14, Newman Street, London.
75. KITCHIN, JOSEPH:
Dunsdale Farm, Westerham, Kent.

Class.

67. KNIGHT, S.:
4, Ordnance Row, Portsmouth.
72. KNOWLES, J. AND G.:
Stonehaven.
26. KULLBERG, VICTOR:
105, Liverpool Road, London.
86. KULP, H. N., AND SON:
Nottingham.
40. KYNOCH AND CO.:
Witton, near Birmingham.

L.

83. LABBON, J.:
46, Park Square, Leeds.
18. LACHENAL AND CO.:
4, Little James Street, Gray's Inn Road, London.
- 52, 61. LADD, J. H., AND CO.:
116, Queen Victoria Street, London.
36. LADIES' WORK SOCIETY:
81, Sloane Street, London.
67. LAFARGUE, A. :
141, Avenue Malakoff, Paris.
67. LAIRD BROTHERS :
Birkenhead.
17. LAMB, JAMES:
16, John Dalton Street, Manchester.
66. LAMPREY, J. H. :
St. Ann's Park, Wandsworth, London.
40. LANCASTER, ALFRED:
27, South Audley Street, London.
64. LANDORE-SIEMENS STEEL CO., LIMITED:
8, Westminster Chambers, Victoria Street, London.
40. LANG, J., AND SONS:
22, Cockspur Street, London.
47. LANGTHORNE CHEMICAL WORKS:
Stratford, near London.
21. LAPWORTH BROTHERS:
22, Old Bond Street, London.
- 66, 85, 17. LASCELLES, WM. HENRY:
121, Bunhill Row, London.
63. LATCHFORD AND WILLSON:
11, Upper St. Martin's Lane, London.
28. LAURENDEAU, P. :
29, Queen Street, St. Helier's, Jersey.
62. LAURIE AND MARNER, LIMITED:
813, Oxford Street, London.
66. LAVERS, ALFRED H.:
Wharf, Nine Elms, London.
19. LAVERS, BARRAUD, AND WESTLAKE:
Endell Street, Bloomsbury, London.
52. LAWRENCE AND CO.:
22, St. Mary Axe, City, London.

Class.

54. LAWRENCE AND PORTER:
36, Parliament Street, London.
10. LAWRENCE, T. J.:
12, Wine Office Court, Fleet Street, London.
56. LAWSON, S., AND SONS:
Hope Foundry, Leeds.
51. LE BUTT, JOSIAH:
Bury St. Edmunds.
10. LECHERTIER, BARBE, AND CO.:
60, Regent Street, London.
38. LEE BROTHERS:
27, Watling Street, London.
47. LEECH AND NEAL:
City Road, Derby.
43. LEEDS FORGE CO., LIMITED:
Armley Road, Leeds.
15. LÉGE, A., AND CO.:
20, Cross Street, Hatton Garden, London.
54. LE GRAND AND SUTCLIFF:
100, Bunhill Row, London.
50. LE GROS, MAYNE, LEAVER, AND CO.:
60, Queen Victoria Street, London.
16. LEIGHTON, JOHN:
12, Ormonde Terrace, Regent's Park, London.
14. LEMALE, T., AND CO.:
53, Haymarket, London.
12. LEMERE, BEDFORD, AND CO.:
147, Strand, London.
63. LENNAN AND SON:
29 and 30, Dawson Street, Dublin.
10. LEONARDT, D., AND CO.:
Universal Pen Works, Birmingham.
27. LEONI, S., AND CO.:
74, Strand, London.
20. LEPRINCE, L. A. A.:
33, Park Square, Leeds.
14. LESLIE AND CO., LIMITED:
Bond Court House, Walbrook, London.
29. LEUCHARS AND SON:
38 and 39, Piccadilly, London.
47. LEVINSTEIN, L. J., AND SONS:
Blackley, near Manchester.
39. LEVETUS BROTHERS:
56, Vittoria Street, Birmingham.
67. LEWIN, DAVID JAMES:
110, Cannon Street, London.
37. LEWIS, G., AND E. S.:
12, Warwick Square, City, London.
40. LEWIS, GEORGE EDWARD:
32 and 33, Lower Loveday Street, Birmingham.
28. LEWIS, JAMES:
6, Bartlett's Buildings, Holborn, London.
43. LILLESALL CO.:
Priors Lee Hall, near Shifnal, Shropshire.

Class.

38. LINCOLN, BENNETT, AND CO.:
40, Piccadilly, London.
72. LINDEMANN, A. C., M.D.:
10, Wasnidge Street, Hulme, Manchester.
21. LINOLEUM MANUFACTURING CO., LIMITED:
144, Queen Victoria Street, London.
67. LIPMAN AND CO.:
Glasgow.
12. LIVERPOOL DRY PLATE AND PHOTOGRAPHIC PRINTING CO.:
1B, St. John's Hill, Wandsworth, London.
47. LIVER ALKALI WORKS CO., LIMITED:
Lightbody Street, Liverpool.
31. LIVERPOOL SPUN OAKUM CO.:
9, North John Street, Liverpool.
57. LIVESSEY, HENRY, LIMITED:
Blackburn.
67. LIVIE, DAVID:
Victoria Docks, Dundee.
34. LLOYD, ATTREE, AND SMITH:
32 and 33, Wood Street, London.
52. LLOYD, THOMAS, AND SONS:
327, Old Street, Shoreditch, London.
50. LLOYD, FRANCIS HENRY:
Wood Green, Wednesbury, Staffordshire.
51. LOADER, CALEB:
East Pennard, Shepton Mallet.
38. LOBB, JOHN:
296, Regent Street, London.
12. LOMBARDI AND CO.:
Brighton.
67. LONDON AND GLASGOW ENGINEERING AND IRON SHIP-BUILDING CO., LIMITED:
34, Gracechurch Street, London.
48. LONDON AND SOUTH WALES COAL COMPANY, LIMITED:
Cardiff.
64. LONDON, BRIGHTON, AND SOUTH COAST RAILWAY CO.:
Locomotive and Carriage Works, Brighton.
17. LONDON SOCIETY FOR PROMOTING CHRISTIANITY AMONGST THE JEWS:
16, Lincoln's Inn Fields, London.
12. LONDON STEREOSCOPIC COMPANY, LIMITED:
110, Regent Street, London.
48. LONDONDERY, MARQUIS OF:
Seaham, Durham.
27. LONGDEN AND CO.:
Phoenix Foundry, Sheffield.
14. LONGDON, F., AND CO.:
Agard Street, Derby.
33. LORD, E., AND CO.:
Rocks Mill, Small Bridge, Rochdale.
9. LOTH, JOHN T.:
18, Gilmore Place, Edinburgh.
52. LOWCOCK AND BARR:
Coleham Foundry, Shrewsbury.

Class.

- 47. LOWE, CHARLES, AND CO.:
Reddish, Stockport.
- 28. LUCE, GEORGE :
44, King Street, Jersey.
- 17. LUCRAFT, G. S., AND SON:
79, City Road, London.
- 85. LUMBY, EDWIN:
West Grove Works, Halifax.
- 67. LUMLEY, HENRY, AND RUSSELL, J. SCOTT:
31, St. James's Street, London.
- 38. LUPTON, WILLIAM, AND CO.:
Wellington Street, Leeds.
- 38. LYE, THOMAS:
Luton, Bedfordshire.
- 10. LYONS, WILLIAM:
19, Park Street, near Ducie Bridge, Manchester.

M.

- 72. M^cCALL, JOHN, AND CO.:
137, Houndsditch, London.
- 39. M^cCREERY, JAMES :
103, Thorndyke Street, Belfast.
- 66. MACDONALD (A.), FIELD, AND CO.:
Granite Works, Aberdeen.
- 47. MACFARLAN, J. F., AND CO.:
17, North Bridge, Edinburgh.
- 17. M^cINTOSH, ALEXANDER H.:
Rose Street, Kirkcaldy.
- 38. MACINTOSH, CHARLES, AND CO.:
19, St. Bride's Street, Ludgate Circus, London.
- 24. MACKAY, CUNNINGHAM, AND CO.:
62, Princes Street, Edinburgh.
- 47, 78. MACKAY, JOHN, AND CO.:
Canning Street, Athole Crescent, Edinburgh.
- 67, 68. MACKIE, SAMUEL JOSEPH:
Cotton Powder Works, Faversham.
- 53. MACKRILL, EDWARD T., AND CO.:
Kingsbury, Aylesbury, Bucks.
- 54. McKENZIE, THOS., AND SONS, LIMITED :
16, Holborn Viaduct, London.
- 51. M^cLAREN, JOHN AND HENRY:
Midland Engine Works, Jack Lane, Hunslet, Leeds.
- 38. M^cLAURIN, PETER, SON, AND CO. :
Langholm, Dumfriesshire.
- 66. M^cLEAN AND CO.:
St. Helen's Wharf, 25, Bankside, Southwark, London.
- 64. MAC LELLAN, P. & W.:
Clutha Iron Works, Glasgow.
- 38. M^cLINTOCK, JAMES, AND SONS:
Barnaley, Yorkshire.
- 50. MACNAB, JAMES:
17, Charles Street, Cavendish Square, London.
- 62. M^cNAUGHT AND SMITH:
45, Park Lane, London.

Class.

- 56. M'NAUGHT, JOHN AND WILLIAM:
St. George's Foundry, Rochdale.
- 38. MACQUEEN AND CO.:
8 and 9, Barbican, London.
- 53, 47. MACTEAR, JAMES, F.C.S.:
St. Rollox Chemical Works, Glasgow.
- 33. MAHONY, MARTIN, AND BROTHERS:
3, Camden Quay, Cork.
- 51. MALDON IRON WORKS CO., LIMITED:
Maldon, Essex.
- 36. MALLET, HENRY, AND SONS:
Mary Gate, Nottingham.
- 12. MALTBY, WILLIAM F.:
176, Upper Street, Islington, London.
- 38. MANBY, JOHN :
21, Rue Auber, Paris.
- 47. MANDER BROTHERS:
Wolverhampton.
- 46. MARCOVITCH AND CO.:
11, Air Street, Regent Street, London.
- 36. MARLBOROUGH, DUCHESS OF:
Viceregal Lodge, Dublin.
- 33. MARLING AND CO.:
Ebley and Stanley Mills, Stroud, Gloucestershire.
- 50. MARSDEN, H. R.:
Soho Foundry, Meadow Lane, Leeds.
- 17. MARSH, JONES, AND CRIBB :
Boar Lane, Leeds.
- 31. MARSHALL AND CO.:
Leeds and Shrewsbury.
- 75. MARSHALL AND HOLLAND:
1, Dod Street, Limehouse, London.
- 55, 66. MARSHALL, ALFRED, AND CO.:
Perseverance Iron Works, Heneage Street, Brick Lane, London.
- 43. MARSHALL, ROBERT :
178, St. Vincent Street, Glasgow.
- 51. MARSHALL, SONS, AND CO., LIMITED :
Britannia Iron Works, Gainsborough.
- 60. MARSHALL, T. J., AND CO. :
Campbell Works, Gillet Street, Kingsland, London.
- 39. MARSHALL, W., AND CO.:
24 and 25, Princes Street, Edinburgh.
- 43. MARSTON, JOHN :
Paul Street, Wolverhampton.
- 67. MARTIN, C., AND CO. :
72, Mark Lane, London.
- 63. MARTIN, ROBERT:
Old Charlton, Kent.
- 64. MARTIN, WILLIAM :
245, Oldham Road, Manchester.
- 54. MARTINEAU AND SMITH:
Holloway Head, Birmingham.
- 43. MASON AND CO.:
5, Arthur Street East, London.

Class.

50. MASSEY, B. AND S.:
Canal Iron Works, Openshaw, Manchester.
- 54, 57. MATHER AND PLATT:
Salford Iron Works, Manchester.
14. MATHER, WILLIAM:
Farringdon Road, London.
38. MATTHEWS, J.:
16, Oakley Street, Waterloo Road, London.
54. MAUDSLAY, SONS, AND FIELD:
Westminster Bridge Road, London.
20. MAW AND CO.:
Benthal Works, Broseley, Shropshire.
74. MAW, THOMAS:
Jacob's Well, Camp Road, Leeds.
47. MAWSON AND SWAN:
Mosley Street, Newcastle-on-Tyne.
63. MAXWELL, HENRY, AND CO.:
161, Piccadilly, London.
54. MAY AND MOUNTAIN:
Suffolk Works, Berkeley Street, Broad Street, Birmingham.
27. MAY, G. H., AND CO.:
126 and 127, High Street, Cowes, Isle of Wight.
14. MAYER AND MELTZER:
71, Great Portland Street, London.
42. MEAD AND CO.:
73, Cheapside, London.
53. MEADOW FOUNDRY CO., LIMITED:
Mansfield, Nottinghamshire.
17. MELLIER, CHARLES, AND CO.:
48, 49, and 50, Margaret Street, Cavendish Square, London.
33. MELLOR, THOMAS, AND SON:
Thongs Bridge Mills, near Huddersfield.
74. MENIER, EMILE:
Southwark Street, Borough, London.
60. MENUËL, EUGÈNE:
19, Tysoe Street, Clerkenwell, London.
54. MERRYWEATHER AND SONS:
63, Long Acre, London.
38. MEYER AND MORTIMER:
86, Conduit Street, London.
67. MEYER, FRANK JOHN:
B12, Exchange Buildings, Liverpool.
38. MIDDLEMASS, JAMES, AND CO.:
18, South Bridge, Edinburgh.
70. MIDDLEMASS, ROBERT:
77, Causewayside, Edinburgh.
8. MIDDLETON, THOMAS JOHN:
38, Little Queen Street, High Holborn, London.
19. MILLAR, JOHN, AND CO.:
2, South Saint Andrew Street, Edinburgh.
49. MILLER, J. AND J., AND CO.:
6, New Leather Market, London.
43. MILWARD, HENRY, AND SONS:
Washford Mills, Redditch.

Class.

75. MINCHEN BROTHERS :
Aska, Gamjam District, Madras.
9. MINOLA, NICOLA :
24, Charlotte Square, Edinburgh.
11. MINNS, JAMES :
Mariners Lane, Norwich.
20. MINTON, HOLLINS, AND CO. :
Stoke-upon-Trent.
20. MINTON'S :
Stoke-upon-Trent.
21. MITCHELL BROTHERS :
Albert Works, Waterfoot, near Manchester.
33. MITCHELL, COATS, AND CO. :
Tweed Place Mills, Galashiels.
30. MITCHELL AND WHYTLAW :
84, Ingram Street, Glasgow.
57. MITCHELL, WILLIAM :
Killinghall Mill, Ripley, Yorkshire.
- 54, 10. MONCRIEFF, JOHN :
North British Glass Works, Perth.
72. MOIR, JOHN, AND SON :
Glasshouse Fields, Brook Street, Ratcliffe, London.
13. MONINGTON AND WESTON :
9, Camden Street, London.
42. MONTANARI, RICHARD :
8, Rathbone Place, Oxford Street, London.
43. MONTGOMERIE, JOHN C. :
Stone Works, Dalmore, Stair, Ayrshire.
9. MOONEN, CHARLES :
1, Rue St. Eleuthère, Paris.
43. MOREWOOD, E., AND CO. :
Llanelly, South Wales.
37. MORLEY, J. AND R. :
18, Wood Street, Cheapside, London.
51. MORRIS AND GRIFFIN :
Ceres Works, Wolverhampton.
47. MORSON, THOMAS, AND SON :
31, 33, and 124, Southampton Row, London.
23. MORTON, JOSEPH :
343, Oxford Street, London.
54. MÜLLER, H. L. :
22, Mary Ann Street, Birmingham.
62. MULLNER, FRANCIS :
59, Great Charlotte Street, Liverpool.
62. MULLNER, HENRY :
Leamington.
69. MUMFORD, PETER, AND SON :
Farringdon Road, London.
69. MUMFORD, PETER, JUNIOR :
Royal Flour Mills, Victoria Embankment, Vauxhall, London.
31. MURPHY AND REYNOLDS :
Drumcairne Mills, Armagh, Ireland.
31. MURPHY, JOSEPH, AND SON :
Lurgan, Ireland.
- 27, 62. MUSGRAVE AND CO., LIMITED :
Cromac Foundry, Belfast.

Class.

38. MUTTON, THOMAS, AND CO.:
84, King's Road, Brighton.

N.

21. NAIRN, MICHAEL, AND CO.:
Kirkcaldy, Scotland.
54. NAPIER, D., AND SON:
Vine Street, York Road, Lambeth, London.
54. NATHAN, DAVID:
2, Queen Street Place, City, London.
23. NEAL, JOHN, AND CO.:
23, 24, and 25, Hampden Gurney Street, London.
- 23, 39. NEAL, JOHN:
44, 46, and 48, Edgware Road, London.
51. NEALE, MELVILLE T.:
Chandos Chambers, Buckingham Street, Adelphi, London.
33. NEAVE, S., AND SONS:
7, Peel Street, Manchester.
15. NEGRETTI AND ZAMBRA:
Holborn Viaduct, London.
33. NEIGHBOUR, GEORGE, AND SONS:
127, High Holborn, London.
43. NETTLEFOLDS:
16, Broad Street, Birmingham.
66. NEVILLE, JACKSON:
8, Walter Street, Fallowfield, Manchester.
43. NEWALL, R. S.:
Gateshead-on-Tyne.
54. NEWBOLD, EDWARD:
23, Low Pavement, Nottingham.
18. NEWMAN, MRS. CHARLOTTE:
329, Euston Road, London.
43. THE NEWPORT-ABERCARN BLACK VEIN STEAM COAL
CO., LIMITED (T. BEYNON AND CO.):
115, Leadenhall Street, London.
9. NEWSPAPER PUBLISHING CO.:
63, Fleet Street, London.
60. NEWSUM, WOOD, AND DYSON:
Meadow Road, Leeds.
6. NEWTON AND CO.:
3, Fleet Street, London.
75. NEW WESTMINSTER BREWERY CO., LIMITED:
Earl Street, Horseferry Road, Westminster, London.
42. NICHOLSON, HAMLET:
Kilner Deyne Terrace, The Park, Rochdale.
34. NICHOLSON, J. O.:
Hope Mills, The Dams, Macclesfield.
- 51, 54. NICHOLSON, W. N., AND SON:
Trent Iron Works, Newark-on-Trent.
38. NICOLL, HENRY JOHN:
114-120, Regent Street, London.
51. NITRO-PHOSPHATE AND ODAMS' CHEMICAL MANURE
CO., LIMITED:
109, Fenchurch Street, London.

Class.

12. NORMAN, CARL, AND CO.:
Graphic Villa, Tunbridge Wells.
54. NORRIS, S. E., AND CO.:
St. Paul's Works, Shadwell, London.
47. NORTH BRITISH CHEMICAL CO., LIMITED:
149, Hope Street, Glasgow.
43. NORTH OF ENGLAND IRON MANUFACTURERS' ASSOCIATION, AND CLEVELAND IRONMASTERS' ASSOCIATION:
Royal Exchange, Middlesbrough.
34. NORWICH CRAPE CO., LIMITED:
St. Augustine's, Norwich.
51. NOTTINGHAM MALLEABLE IRON CO., LIMITED:
Kirke White Street, Nottingham.
37. NOTTINGHAM MANUFACTURING CO., LIMITED:
Station Street, Nottingham.

O.

54. OAKLEY, JOHN, AND SONS:
Wellington Mills, Westminster Bridge Road, London.
47. OAKBANK OIL CO., LIMITED:
128, Ingram Street, Glasgow.
62. OFFORD, JOSEPH:
79, Wells Street, Oxford Street, London.
18. OGDEN, HENRY, AND SON:
126, Deansgate, Manchester.
51. OHLENDORFF AND CO.:
15, Leadenhall Street, London.
18. OPPENHEIM, WILLIAM:
75, Newman Street, Oxford Street, London.
11. ORTNER AND HOULE:
3, St. James's Street, London.
28. OSBORNE, BAUER, AND CHEESEMAN:
19, Golden Square, London.
19. OSLER, F. AND C.:
45, Oxford Street, London.
- 35, 39. OULMAN (LES FILS) AND CO.:
2, Rue Drouot, Paris.

P.

51. PACKARD, EDWARD, AND CO.:
6, Princes Street, Ipswich, Suffolk.
48. PALMER AND STORY:
Holme Works, Carlisle.
- 43, 54. PALMER, MORGAN, AND CO.:
Cardiff.
8. PALMER, SAMUEL:
75a, Strand, London.
67. PALMER'S SHIPBUILDING AND IRON CO., LIMITED:
Jarrow, Newcastle-on-Tyne.
27. PARIS, JAMES:
Mergery Park Road, Stratford, near London.

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70. PARKINSON BROTHERS:
48, Hammerton Street, Burnley.
85. PARKINSON, WILLIAM:
Market Place, Ripon.
67. PARRATT, GEORGE FREDERICK:
Windham Club, St. James's Square, London.
69. PARSONS, FLETCHER, AND CO.:
Dyer's Buildings, Gravel Lane, Southwark, London.
48. PARSONS, P. M. :
Lombard Street, Southwark, London.
74. PATCHITT, E. CHESHIRE:
Ilkeston Road, Nottingham.
9. PATENT LITHOTYPE CO., LIMITED:
22, St. John's Square, Clerkenwell, London.
54. PATENT NUT AND BOLT CO.:
London Works, near Birmingham.
50. PATENT PLUMBAGO CRUCIBLE CO.:
Battersea Works, London.
9. PATENT PRINTING SURFACE CO.:
281, Strand, London.
66. PATENT SELENITIC CEMENT CO., LIMITED:
1, Great College Street, Westminster, London.
18. PATENT SHOW TABLET CO.:
Charlotte Street, Shoreditch, London.
- 10, 41. PATENT WATERPROOF PAPER AND CANVAS CO.:
Canal Works, Willesden Junction, near London.
30. PATENT VELVET CO.:
1, Peter Street, Manchester.
33. PATON, J. AND D., AND CO.:
Tillicoultry, Scotland.
40. PATSTONE, JOHN :
25, High Street, Southampton.
34. PATTERSON, W., AND SONS:
Nottingham.
49. PAUL, WILLIAM:
Oak Tannery, Kirkstall Road, Leeds.
28. PEARS, A. AND F.:
91, Great Russell Street, London.
70. PEEK, FREAN, AND CO.:
Drummond Road, London.
11. PEEL, JOSEPH:
Roker Lane, Pudsey, near Leeds.
63. PEIRCE, W. ADAMS:
6, Bridge Road, Woolstone, Southampton.
54. PENN, JOHN, AND SONS:
Greenwich.
52. PENNEY AND CO., LIMITED:
Lincoln.
66. PEN YR ORSEDD SLATE QUARRY CO.:
Carnarvon.
17. PEREIRA, JOHN, AND SON:
16, Wellington Road, Barnsbury, London.
27. PERRY, ALEX., AND CO:
7, Little Tower Street, London.

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10. PERRY AND CO., LIMITED:
36, Lancaster Street, Birmingham.
73. PERRY, W. T. L.:
Mount's Bay Steam Works, Penzance.
66. PETERHEAD GRANITE POLISHING CO.:
Peterhead, Aberdeenshire.
84. PETERS AND CO. :
City Road Mills, Derby.
62. PETERS, THOS., AND SONS:
Park Street, Grosvenor Square, London.
18. PEYTON AND PEYTON:
Bordesley Works, Birmingham.
16. PHILIP, GEORGE, AND SON:
82, Fleet Street, London.
17. PHILLIPS, ALBERT:
Excelsior Works, Rea Street South, Birmingham.
43. PHOSPHOR BRONZE CO., LIMITED:
139, Cannon Street, London.
54. PICKERING, JONATHAN:
Globe Works, Stockton-on-Tees.
51. PICKSLEY, SIMS, AND CO., LIMITED:
Bedford Foundry, Leigh, Lancashire.
66. PICTOR AND SONS:
Box, near Chippenham, Wilts.
28. PIESSE AND LUBIN:
2, New Bond Street, London.
40. PIGOU, WILKS, AND LAURENCE, LIMITED:
11, Queen Victoria Street, London.
43. PIKE, W. I.:
Wareham.
- 15, 27. PILLISCHER, MORITZ:
88, New Bond Street, London.
84. PIM BROTHERS AND CO.:
22, William Street, Dublin.
20. PINDER, BOURNE, AND CO.:
Nile Street Works, Burslem.
10. PIRIE, ALEXANDER, AND SONS:
Stoneywood Works, near Aberdeen.
- 18, 19. PITMAN AND CUTHBERTSON:
30 and 31, Newgate Street, London.
54. PLAMBECK AND CO.:
171, Queen Victoria Street, London.
56. PLATT BROTHERS AND CO., LIMITED:
Hartford Iron Works, Oldham.
62. PLOWRIGHT, J. :
96, High Street, King's Lynn.
66. PLYMOUTH FIRE CLAY CO.:
53, Gracechurch Street, London.
63. POLLOCK, SYDNEY:
11, Cambridge Terrace, St. Stephen's Road, Shepherd's Bush,
London..
11. POOLE, EDWARD:
Chester Terrace, Habberley Road, Bewdley.

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33. PORTER, H. G., AND CO. :
43, Bow Lane, London.
14. PORTER, J. H., SURGEON-MAJOR:
Army Medical School, Royal Victoria Hospital, Netley, South-
ampton.
- 18, 19. POWELL, JAMES, AND SONS:
Temple Street, Whitefriars, London.
- 54, 59. POWIS, CHARLES, AND CO.:
60, Gracechurch Street, London.
74. PRATT, JAMES:
227, Oxford Street, London.
47. PRICE'S PATENT CANDLE CO., LIMITED:
Belmont Works, Battersea, London.
26. PRICE, GEORGE FREDERIC:
11, Melbourne Square, Brixton Road, London.
28. PRICE, NAPOLEON, AND CO.:
27, Old Bond Street, London.
54. PRIESTMAN BROTHERS :
Holderness Foundry, Hull.
32. PRIESTMAN, JOHN, AND CO.:
Bradford.
50. PROTECTOR LAMP AND LIGHTING CO., LIMITED:
10, Marsden Street, Manchester.
49. PUCKRIDGE, FREDERICK, AND NEPHEW:
530, Kingsland Road, London.
11. PUGH BROTHERS:
9, Great Turnstile, Lincoln's Inn, London.
54. PULSOMETER ENGINEERING CO., LIMITED:
61, Queen Victoria Street, London.
64. PUNSHON, ROBERT:
St. Michael's Place, Brighton.
40. PURDEY, JAMES, AND SONS:
814½, Oxford Street, London.
9. PURE LITERATURE SOCIETY:
11, Buckingham Street, Strand, London.
51. PURSER, EDWARD, AND CO.:
116, Fenchurch Street, London.

R.

- 85, 86. RADCLYFFE (DICK) AND CO.:
128-9, High Holborn, London.
51. RAINFORTH, WILLIAM, AND SONS:
Brayford Head, Lincoln.
66. RAMSAY, GEORGE HEPPEL:
Newcastle-upon-Tyne.
59. RANSOME, A., AND CO.:
Stanley Works, King's Road, Chelsea, London.
51. RANSOMES, SIMS, AND HEAD:
Orwell Works, Ipswich.
43. READ, JEFFERSON:
Louisa Street, Parade, Birmingham.
47. READE BROTHERS :
62, Victoria Street, Wolverhampton.

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21. ROYAL WINDSOR TAPESTRY MANUFACTORY:
Old Windsor, Berkshire.
47. RUNCORN SOAP AND ALKALI COMPANY, LIMITED:
6, Water Street, Liverpool.
6. RUNDELL, J. B.:
84A, Pembroke Square, Kensington, London.
49. RUSS, CHARLES:
70, New Bond Street, London.
54. RUSSELL, JOHN, AND CO.:
145, Queen Victoria Street, London.
67. RUSSELL, J. SCOTT, AND LUMLEY, HENRY:
81, St. James's Street, London.
51. RUSTON, PROCTOR, AND CO.:
Sheaf Iron Works, Lincoln.
45. RYDER, WM. HENRY:
48, Ellis Street, Birmingham.
43. RYHOPE COAL COMPANY, LIMITED:
Sunderland.

S.

18. SAGE, FREDERICK:
80 to 84, Gray's Inn Road, London.
47. ST. BEDE CHEMICAL CO., LIMITED:
1, St. Nicholas Buildings, Newcastle-on-Tyne.
62. SAINT PANCRAS IRON WORK COMPANY:
Saint Pancras Road, London.
58. SALMON AND CO.:
Victoria Works, Kettering.
- 50, 66. SALMON, BARNES, AND CO.:
Canal Head Works, Ulverston, Lancashire.
33. SALTER, SAMUEL, AND CO.:
Home and Duke Street Mills, Trowbridge, Wiltshire.
34. SALTER AND WHITER:
8, Milk Street, Cheapside, London.
51. SAMUELSON AND CO.:
Britannia Works, Banbury, Oxfordshire.
47. SAMPSON BROTHERS:
Sutton in Ashfield, Nottinghamshire.
10. SANDERS, H. G., AND SON:
Victoria Works, Victoria Gardens, Notting Hill Gate, London.
65. SANDERSON AND CO.:
Shore Works, Huddersfield.
33. SANDERSON, HUGH, AND SON:
Deanbank Mill, Galashiels.
33. SANDERSON, R. AND A., AND CO.:
Gala Mill, Galashiels.
58. SANSON, ROBERT B.:
87, Globe Road, Mile End, London.
10. SAUNDERS, T. H., AND CO.:
Lyon's Wharf, Upper Thames Street, London.
50. SAVILE STREET ENGINE FOUNDRY AND ENGINEERING
COMPANY, LIMITED:
Savile Street East, Sheffield.

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47. SAVORY AND MOORE :
143, New Bond Street, London.
64. SAXBY AND FARMER :
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85. SAYNOR, COOKE, AND RIDAL :
Paxton Works, 13, Edward Street, Sheffield.
- 27, 54. SCANLAN, JUNR., AND CO. :
Walsall, Staffordshire.
32. SCARBOROUGH BROTHERS :
Trafalgar Works, Halifax.
72. SCHNEIDER, EDWARD A. :
4, Cambria Villa, Chesterton Road, Cambridge.
48. SCHWABE, SALIS, AND CO. :
41, George Street, Manchester.
30. SCHWANN, MODERA, AND CO. :
117, Portland Street, Manchester.
47. SCHWEPPE, JACOB, AND CO. :
51, Berners Street, London.
42. SCIENTIFIC TOY AND GENERAL NOVELTY COMPANY :
42A, Cloth Fair, Smithfield, London.
40. SCOTT, W. AND C., AND SON :
Premier Gun Works, Lancaster Street, Birmingham.
52. SCOTT, WALTER :
120, Newgate Street, London.
29. SCOTTISH VULCANITE CO., LIMITED :
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66. SCOTT'S SEWAGE COMPANY, LIMITED :
Royal Albert Hall, Kensington, London.
43. SEEBOHM AND DIECKSTAHL :
Dannemora Steel Works, Willey Street, Wicker, Sheffield.
9. SERLEY, JACKSON, AND HALLIDAY :
54, Fleet Street, London.
48. SELIGMANN AND HAARBLEICHER :
88, Dickinson Street, Manchester.
48. SERRE, ACHILLE :
57 and 59, Mayfield Road, Dalston, London.
46. SEVIN, CHARLES :
155, Fenchurch Street, London.
63. SHAMMON, WILLIAM :
208, Moseley Street, Birmingham.
54. SHAND, MASON, AND CO. :
75, Upper Ground Street, Blackfriars, London.
54. SHANKS, A., AND SON :
Dens Ironworks, Arbroath, Scotland.
- 55, 64. SHARP, STEWART, AND CO., LIMITED :
Atlas Works, Manchester.
24. SHAW AND FISHER :
43, Suffolk Road, Sheffield.
47. SHAW, HENRY, AND CO. :
Chemical Works, Dukinfield, near Manchester.
33. SHAW, JOHN, AND CO. :
18, John William Street, Huddersfield.
43. SHAW, JOHN :
Wire Rope and Fencing Works, Soho Street, Sheffield.

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38. SHEARD, M., AND SONS:
Batley, Yorkshire.
43. SHELTON BAR IRON CO.:
Stoke-upon-Trent.
43. SHELTON COLLIERY AND IRON WORKS. (See GRANVILLE,
EARL):
Near Stoke-upon-Trent.
11. SHEPPERD, WILLIAM HENRY:
St. Mary's Place, Shrewsbury.
12. SHERLOCK, WILLIAM:
Budleigh Salterton, Devonshire.
26. SHICK, FREDERICK:
58, Rahere Street, Goswell Road, London.
75. SHIELDS, JAMES:
21 and 22, Square, Kelso, Roxburgh.
17. SHOOLBRED, JAMES, AND CO.:
Tottenham House, Tottenham Court Road, London.
66. THE SICKER SAFE AND STRONG ROOM CO., LIMITED:
Soho, near Birmingham.
43. SIDDON, JOSEPH AND JESSE:
Hill Top, West Bromwich, Staffordshire.
- 52, 67. SIEBE AND GORMAN:
17, Mason Street, Westminster Bridge Road, London.
65. SIEMENS BROTHERS:
12, Queen Anne's Gate, London.
47. SILICATE PAINT COMPANY:
107, Cannon Street, London.
66. SILICATED CARBON FILTER CO.:
Church Road, Battersea, London.
37. SIMMONS, SIMON:
180, Bishopsgate Street, London.
54. SIMON, LOUIS, AND SON:
Wilford Road Works, Nottingham.
- 18, 19. SIMPSON, W. B., AND SONS:
100, Saint Martin's Lane, London.
47. SIMPSON, PAYNE, AND CO.:
Palm Candle Works, Millwall, London.
75. SIMS, WILLIAM, AND SON:
Lion Brewery, Reading.
47. SIMS, WILLIAM:
Lion Brewery, Reading.
85. SINCLAIR, DAVID, AND CO.:
15, Redcross Street, Southwark, London.
58. SINGER MANUFACTURING CO.:
James Street, Bridgeton, Glasgow.
25. SINGER, JOHN W., AND SON:
Frome, Somersetshire.
- 9, 10. SKIPPER (CHARLES) AND EAST:
1, St. Dunstan's Hill, Great Tower Street, London.
34. SLATER, BUCKINGHAM, AND CO.:
85, Wood Street, London.
38. SLAZENGER AND SONS:
25, Market Street, Manchester.
12. SLINGSBY, ROBERT:
168, High Street, Lincoln.

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66. SMEATON, W., AND SONS:
9, Newcastle Street, Strand, London.
17. SMEE, W. A. AND S.:
6, Finsbury Pavement, London.
55. SMITH AND COVENTRY:
Gresley Iron Works, Ordsal Lane, Manchester.
43. SMITH, FREDERICK, AND CO.:
Caledonia Works, Halifax.
36. SMITH, GEORGE JOHN:
81, St. Anbyn's Road, Upper Norwood, near London.
43. SMITH, JAMES, AND SON:
Astwood Bank, near Redditch.
47. SMITH, JOHN M. :
88, Borough Road, London.
33. SMITH, ROBERT, AND SON:
Hayford Mills, Stirling.
58. SMITH, STARLEY, AND CO., LIMITED:
Trafalgar Works, Coventry.
47. SMITH, T. AND H., AND CO.:
21, Duke Street, Edinburgh.
21. SMITH (TURBERVILLE) AND SON :
9, Great Marlborough Street, London.
43. SMITH, WILLIAM, AND SON:
Dallam Wire Works, Warrington.
13. SMITH, JAMES MUIR:
116 and 118, Bayham Street, Camden Town, London.
43. SMITH, JOHN WRIGHT:
121, Belgrave Gate, Leicester.
54. SMITH, MICHAEL HOLROYD:
Royal Insurance Buildings, Crossley Street, Halifax.
47. SMITH, THOMAS OGILVIE:
Grass Market, Edinburgh.
51. SMITH, WILLIAM, AND SON:
Royal Iron Works, Kettering.
64. SMITH'S VACUUM BRAKE CO., LIMITED :
69, Upper Thames Street, London.
32. SMITHSON, JOSEPH, AND CO.:
Brunswick Mills, Halifax.
37. SMYTH AND CO.:
Balbriggan, Ireland.
51. SMYTH, JAMES, AND SONS:
Peasenhall, Suffolk.
43. SNEDSHILL IRON CO.:
Snedshill Iron Works, near Shifnal, Shropshire.
19. SNELL, GODFREY, AND CO.:
20, Broad Street, Bloomsbury, London.
43. SNELUS, GEORGE JAMES:
Workington, Cumberland.
69. SNODGRASS, JAMES :
Saucel Mills, Paisley.
11. SOANE, HARRY:
8, Green Street, Leicester Square, London.
6. SONNENSCHN, ADOLF:
8, Beverley Road, South Penge Park, Anerley, London.

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40. SOPER, WILLIAM:
22, Friar Street, Reading.
47. SOUTHALL BROTHERS AND BARCLAY:
17, Bull Street, Birmingham.
54. SOUTHALL, CHARLES HENRY:
Dewsbury Road, Leeds.
48. SOUTH DEBWENT COLLIERY COMPANY:
Lombard Street, Newcastle-on-Tyne.
6. SOUTHEE, ARTHUR PHILIP:
West Cliff School, Ramsgate.
8. SOUTH KENSINGTON MUSEUM:
London.
21. SOUTHWELL, H. AND M.:
Bridgenorth.
57. SOWDEN, DAVID, AND SONS:
Thornton Road, Bradford.
47. SPENCE, PETER:
Pendleton Alum Works, Manchester.
48. SPENCER, J. R., AND SON:
Albion Steel Works, Sheffield.
43. SPENCER, WALTER, AND CO.:
Midland Steel Works, Rotherham.
37. SPIERS BROTHERS:
34, Wood Street, London.
17. SPIERS AND SON:
102 and 103, High Street, Oxford.
9. SPOTTISWOODE AND CO.:
New Street Square, London.
69. SPRATT'S PATENT BISCUIT CO.:
Henry Street, Tooley Street, London.
60. SQUINTANI, CARLO GIUSEPPE, AND CO.:
8, Ludgate Circus Buildings, London.
- 46, 71. STAFFORD, J., SONS, AND OSWIN:
Campbell Street, Leicester.
52. STAFFORD, SAMUEL:
17, Hanging Ditch, Manchester.
69. STANBRIDGE, S., AND CO.:
Canal Bank, Camberwell, London.
- 9, 16. STANFORD, EDWARD:
55, Charing Cross, London.
54. STANNAH, JOSEPH:
20, Southwark Bridge Road, London.
32. STANSFELD, BROWN, AND CO.:
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38. STANTON AND SON:
Stafford Mills, Stroud, Gloucestershire.
29. STAR BRUSH CO., LIMITED:
North East Road, Holloway, London.
67. STEEDMAN AND McALISTER:
248, Paisley Road, Glasgow.

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Wharnccliffe Works, Sheffield.
10. STEPHENS, HENRY CHARLES:
171, Aldersgate Street, London.
21. STEPHENS, JAMES:
2, Frith Street, Soho, London.
9. STEPHENSON, BLAKE, AND CO.:
Sheffield.
17. STEVENS AND SONS:
Villiers Street, Charing Cross, London.
74. STEVENS, THOMAS:
48, Hope Street, Wrexham, North Wales.
29. STEWART, S. R., AND CO.:
Comb Works, Aberdeen.
- 9, 64. STEWART, CHARLES:
50, Colebrooke Row, Islington, London.
86. STIEBEL, KAUFMANN, AND CO.:
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- 20, 66. STIFF, JAMES, AND SONS:
High Street, Lambeth, London.
30. STIRLING, WILLIAM, AND SONS:
Benton, by Glasgow.
21. STODDARD, A. F., AND CO.:
Glenpatrick Carpet Works, Paisley.
- 66, 67. STONE, J., AND CO.:
High Street, Deptford, London.
47. STORER, DAVID, AND SONS:
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42. STORMONT, JAMES G.:
59, Constitution Hill, Birmingham.
18. STROHMENGER, J., AND SONS:
169 and 206, Goswell Road, London.
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Eak Mills, Musselburgh.
33. STUBLEY, GEORGE AND JAMES:
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LIMITED:
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56, Old Bailey, London.
67. SUNDERLAND SHIP BUILDERS' ASSOCIATION:
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62. SURREY MACHINIST CO.:
85, Blackman Street, Borough, London.
85. SUTTON AND SONS:
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68. SWAINE AND ADENEY:
185, Piccadilly, London.

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9, Upper Mount Pleasant Avenue, Dublin.
43. SWANSEA TIN PLATE CO.:
Tin Plate Works, Swansea.
37. SWEARS AND WELLS:
192, Regent Street, London.
36. SWEETMAN, MRS. C.:
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15. SWIFT, JAMES:
University Street, London.
33. SYKES, GODFREY, AND SON:
Mold Green, Huddersfield.
58. SYMONS, H. CYRUS:
2, George Street, Blackfriars Road London.

T.

72. TALLERMAN, DANIEL:
118, Cannon Street, London.
66. TAMAR AND KIT HILL GRANITE CO.:
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54. TANGYE BROTHERS:
Cornwall Works, Birmingham.
32. TANKARD, JAMES:
Upper Croft Mills, Bowling, Bradford, Yorks.
21. TAPLING, THOS., AND CO.:
1 to 8, Gresham Street West, London.
58. TATHAM, WALTER, AND CO.:
42, Castle Gate, Nottingham.
43. TAYLER, D. F., AND CO.:
New Hall Works, George Street, Birmingham.
54. TAYLOR AND CO.:
129, Seven Sisters Road, London.
33. TAYLOR AND LITTLEWOOD:
Newsome Mills, Huddersfield.
38. TAYLOR BROTHERS:
116, Wood Street, London.
33. TAYLOR AND CO.:
Holme Mill, Golcar, near Huddersfield.
33. TAYLOR, J. T., AND CO.:
Ribblesden Mills, Holmfirth, near Huddersfield.
58. TAYLOR'S PATENT SEWING MACHINE CO., LIMITED:
Driffield, Yorkshire.
50. TAYLOR, HENRY E.:
15, Newgate Street, Chester.
62. TAYLOR, WALTER:
Ranelagh Road, Fimlipo, London.
19. TAYLOR, WILLIAM GEORGE:
4, Berners Street, Oxford Street, London.

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38, Old Broad Street, City, London.
21. TEMPLETON, J. AND J. S.:
128, Crownpoint Road, Glasgow.
21. TEMPLETON, JAMES, AND CO.:
30, William Street, Greenhead, Glasgow.
47. TENNANT, CHARLES, AND CO.:
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54. TERRELL, WILLIAM, AND SONS:
Welsh Back, Bristol.
10. TERRY, STONEMAN, AND CO.:
6 and 82, Hatton Garden, London.
21. THOM AND LAWSON:
95, Cumberland Street, Greenhead, Glasgow.
85. THOMAS, J. J., AND CO.:
362, Edgware Road, London.
43. THOMAS, S., AND SONS:
British Needle Mills, Redditch.
15. THOMAS, ANTOINE E.:
The Butts, Brentford, Middlesex.
66. THOMLINSON AND SALKELD:
34, Junction Road, London.
34. THOMPSON, WILLIAM, AND CO., LIMITED:
Galgate Silk Mills, near Lancaster.
62. THOMPSON, CHARLES:
83, 35, and 87, Newington Butts, London.
67. THOMPSON, W. B.:
Dundee.
67. THOMSON, JAS., AND GEO.:
Clyde Bank Foundry, Glasgow.
69. THOMSON, JAS., AND SONS:
5, Leven Street, Edinburgh.
67. THOMSON, SIR WILLIAM :
The University, Glasgow.
33. THOMSON, WILLIAM, AND SONS :
Priestroyd Mills, Huddersfield.
37. THOMSON, W. S., AND CO.:
97, Cheapside, London.
55. THOMSON, STERNE, AND CO., LIMITED:
156, North Woodside Road, Glasgow.
69. THORLEY'S (J. W.) CATTLE FOOD CO., LIMITED :
104, Worship Street, London.
62. THORN, CHARLES:
Norfolk Carriage Works, Norwich.
29. THORNHILL, WALTER, AND CO.:
144, New Bond Street, London.
43. THRISCUTT AND BALE:
St. Austell, Cornwall.
53. TICE, WILLIAM:
74, Park Road, Southport, Lancaster.
15. TISLEY AND CO.:
172, Brompton Road, London.

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53. TOLEMAN, JAMES:
80, Bermondsey Street, London.
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21. TOMKINSON AND ADAM :
Kidderminster.
80. TOOTAL-BROADHURST, LEE, AND CO.:
56 to 62, Morley Street, Manchester.
20. TORQUAY TERRA-COTTA CO.:
Hele Cross, Torquay.
66. TREGAY, ALFRED:
7, London Road, Liverpool.
21. TRELOAR AND SONS:
69, Ludgate Hill, London.
33. TRENCHARD, G., AND CO. :
Winsham, Somerset.
38. TRESS AND CO.:
8, 5, and 7, Stamford Street, Blackfriars, London.
52. TRIGGS AND BENSON (Trustees of the late Thos. Carr):
39, Broad Street, Bristol.
17. TROLLOPE, GEORGE, AND SONS:
Halkin Street West, London.
21. TULL, GLANVILL, AND CO.:
Roupell Street, Lambeth, London.
54. TULLIS, JOHN, AND SON:
John Street, Bridgeton, Glasgow.
34. TURNER, ARCHIBALD, AND CO.:
Bow Bridge Works, Leicester.
47. TURNER, CHAS., AND SON:
7, 8, and 9, Broad Street, Bloomsbury, London.
51. TURNER, E. R. AND F.:
St. Peter's Iron Works, Ipswich.
54. TURNER, FREDERICK WILLIAM:
Iron Works, St. Alban's, Herts.
43. TURNER, R., AND SONS:
Steam Mills, Redditch.
33. TURNER, J. B., AND CO.:
Albert Mills, Huddersfield.
17. TURPIN, M. F. C.:
22, Queen's Road, Bayswater, London.
43. TURTLE AND PEARCE:
11, Duke Street, London Bridge, London.
43. TURTON, THOMAS, AND SONS:
Sheaf Works, Sheffield.
43. TWEDDELL, MACLAREN, AND CO.:
5, Queen Street, Newcastle-on-Tyne.
55. TWEDDELL, RALPH HART:
14, Delahay Street, Westminster, London.
47. TWELVETREES, HARPER, AND SON:
Cordova Chemical Works, Copperfield Road, Bow, London.
54. TWIBILL, JOSEPH:
Economiser Iron Works, Manchester.
6. TWINING, THOMAS:
Perryn House, Twickenham.

Class.

- 52, 54. TYLER (HAYWARD) AND CO. :
84 and 85, Upper Whitecross St., London.
53. TYLER, JOHN HENRY:
38, Abbey Street, Bermondsey, London.
43. TYLOR, A., AND CO. :
123, Bute Street, Cardiff.
66. TYLOR, JOSEPH, AND SONS:
2, Newgate Street, London.
47. TYNE ALKALI CO., LIMITED:
1, Dean Street, Newcastle-upon-Tyne.
9. TYPOGRAPHIC ETCHING CO. :
23, Farringdon Street, London.

U.

9. UHLRICH, H. S. :
Brynterion, Chelsfield, Chislehurst, Kent.
31. ULLATHORNE AND CO. :
9, Gate Street, Lincoln's Inn, London.
41. UNITE, JOHN:
291 and 293, Edgware Road, London.
9. UNWIN BROTHERS:
Oxford Court, 109a, Cannon Street, City, London.

V.

36. VALLANCE, Miss FANNY:
43, Porchester Terrace, Hyde Park, London.
34. VANNER, J., AND SONS:
Coleman Street, City, London.
12. VAN DER WEYDE, HENRY:
182, Regent Street, London.
66. VAN PRAAG, A., AND CO. :
9, Crown Street, Soho, London.
67. VANSITTART, Mrs. HENRIETTA:
Bell House, Montpelier Row, Twickenham.
38. VAN VOLEN, G. :
50 to 52, Waterloo Road, London.
65. VARLEY, S. ALFRED:
Hatfield, Herts.
75. VAUGHAN-JONES, EDWARD:
17, Water Lane, Great Tower Street, London.
66. VERITY BROTHERS:
127, Regent Street, London.
30. VERNON AND FREEMANTLE:
Piccadilly Mills, Manchester.
75. VICKERS, JOS. AND JOHN, AND CO. :
Victoria Street Distillery, Westminster, London.
34. VIRGOE, MIDDLETON, AND CO. :
34, Wood Street, City, London.
9. VIRTUE AND CO., LIMITED:
294, City Road, London.
43. VIVIAN, H. H., AND CO. :
46, George Street, St. Paul's, Birmingham.

Class.

38. VYSE, SONS, AND CO.:
76, Wood Street, City, London.

W

62. WADSWORTH, ROBERT:
29, Westgate, Halifax.
43. WALKER, JAMES:
10, Elmwood Place, Leeds.
70. WALKER, JOHN:
Cleveland Street, Glasgow.
17. WALKER, W., AND SONS:
119, Bunhill Row, London.
18. WALLIS, JOSEPH:
133 and 135, Euston Road, London.
21. WALTON, FREDERICK:
Heatham House, Twickenham.
52. WALWORTH, JAMES, AND CO.:
Albert Works, Bradford, Yorkshire.
19. WARD AND HUGHES:
67, Frith Street, Soho, London.
34. WARD, ANTHONY, AND CO.:
Albion Mills, Leek, Staffordshire.
9. WARD, MARCUS, AND CO.:
67, Chandos Street, Covent Garden, London.
- 18, 62. WARD, JOHN:
5 and 6, Leicester Square, London.
43. WARDROBE AND SMITH:
Meadow Steel Works, Well Meadow Street, Sheffield.
38. WARMINGTON, F. W., AND CO.:
60, High Street, Colchester.
12. WARNERKE, LEON:
10, Linden Grove, Peckham Rye, London.
43. WARRINGTON WIRE ROPE WORKS CO., LIMITED:
Warrington.
47. WASHINGTON CHEMICAL CO.:
Newcastle-on-Tyne.
10. WATERLOW AND SONS, LIMITED:
25, Great Winchester Street, London.
30. WATERS, J. AND E., AND CO.:
Talbot Mills, Ellesmere Street, Hulme, Manchester.
10. WATERSTON, G., SONS, AND STEWART:
56, Hanover Street, Edinburgh.
10. WATKINS AND McCOMBIE:
5A, Cloak Lane, London.
12. WATKINS, HERBERT:
1, Torriano Avenue, Camden Road, London.
34. WATSON AND CO.:
London Mills, London Street, Leek, Staffordshire.

Class.

21. WATSON, BONTOR, AND CO.:
35, Old Bond Street, London.
60. WATSON, HENRY :
High Bridge Works, Newcastle-upon-Tyne.
39. WATSON, J., AND SON :
Moorgate Street Chambers, Moorgate Street, London.
33. WATSON, WILLIAM, AND SONS :
Dangerfield Mills, Hawick, Scotland
17. WATT, WILLIAM :
21, Grafton Street East, London.
67. WATTS, JAMES WREN :
46, Old Street, St. Luke's, London.
- 21, 17. WAUGH AND SON:
3 and 4, Goodge Street, London.
27. WAVISH, JAMES:
7, Fenchurch Street, London.
43. THE WAYNES MERTHYR CO., LIMITED :
Bartholomew House, Bartholomew Lane, London.
85. WEBB, EDWARD, AND SONS:
Wordsley, Stourbridge.
19. WEBB, THOMAS, AND SONS:
Stourbridge.
26. WEBSTER, RICHARD:
5, Queen Victoria Street, London.
20. WEDGWOOD, J., AND SONS:
Etruria, Stoke-upon-Trent.
34. WELCH, MARGETSON, AND CO. :
16 and 17, Cheapside, London.
38. WELCH AND SONS:
44, Gutter Lane, London.
9. WELCH, WILLIAM JAMES:
25, Wellington Street, Strand, London.
47. WELDON, WALTER:
Rede Hall, Bairstow.
33. WELSH WOOLLEN MANUFACTURING CO., LIMITED:
Newtown, Montgomeryshire.
- 47, 53. WENGER, ALBERT:
Parker Street Works, Hanley, Staffordshire.
52. WENHAM LAKE ICE CO.:
125, Strand, London.
50. WEST CUMBERLAND IRON AND STERL CO., LIMITED:
Workington, Cumberland.
- 50, 59. WESTERN AND CO. :
Belvedere Road, Lambeth, London.
43. WESTERN MERTHYR COAL AND FUEL CO., LIMITED:
Swansea.
18. WESTLAKE, N. H. J.:
Goodyears, Hendon, near London.

Class.

8. WHEELER, EDMUND:
48, Tollington Road, Holloway, London.
12. WHEELER, WILLIAM HENRY:
106, High Street, Oxford.
21. WHINCUP, JOSEPH:
36, Wood Street, London.
9. WHITAKER, JOSEPH:
12, Warwick Lane, Paternoster Row, London.
17. WHITBURN AND YOUNG:
Milford, near Godalming, Surrey.
56. WHITE, JOHN, AND SONS:
Park Road, Bingley, Yorkshire.
43. WHITE, W., AND SON:
345, Oxford Street, London.
66. WHITE, WILLIAM GEORGE:
23, Fenchurch Street, London.
72. WHITEHEAD AND CO., LIMITED:
110, Fenchurch Street, London.
66. WHITEHEAD, JOHN, AND CO.:
Albert Works, Preston, Lancashire.
33. WHITEHEAD, R. R., AND BROS., LIMITED:
10, Endell Street, Long Acre, London.
67. WHITE STAR LINE (ISMAY, IMRIE, & CO.):
10, Water Street, Liverpool.
12. WHITING, MATTHEW:
Lavender Hill, Wandsworth, Surrey.
54. WHITLEY, JOHN R.:
Albert Park, Didsbury, Manchester.
43. WHITWELL, THOMAS:
Thornaby Iron Works, Stockton-on-Tees.
- 54, 55, 67, 68. WHITWORTH, SIR JOSEPH, AND CO., LIMITED:
44, Chorlton Street, Manchester.
9. WHYMPER, EDWARD:
45, Lambeth Road, London.
21. WIDNELL, HENRY, AND CO.:
Lasswade, near Edinburgh.
43. WIGAN COAL AND IRON CO., LIMITED:
Wigan.
72. WIGAN, HENRY, & CO.:
Swan Lane, Upper Thames Street, London.
43. WIGGIN, HENRY, AND CO.:
55, George Street, Parade, Birmingham.
- 54, 67. WIGZELL, HALSEY, AND CO.:
82, Mark Lane, London.
29. WILDE, JAMES, AND SON:
The Brush Factory, Oldham.
52. WILDER, JOHN:
Yield Hall Foundry, Reading.
21. WILDEY, WM., AND CO.:
13, Holland Street, Blackfriars, London.

Class.

31. WILFORD, J., AND SONS:
Brompton, near Northallerton.
47. WILKINSON, HEYWOOD, AND CLARK:
Caledonian Works, Battle Bridge, London.
33. WILLANS, THOS. B., AND CO.:
Vale Mills, Rochdale.
18. WILLIAMS, G. A., AND SON:
21, Queen's Road, Bayswater, London.
30. WILLIAMS, SONS, AND BROOKES:
12, Birchin Lane, Manchester.
47. WILLIAMS, THOMAS, AND DOWER:
Star Chemical Works, Brentford, Middlesex.
75. WILLIAMS, WILLIAM, AND SONS:
19, Regent Quay, Aberdeen.
21. WILLIS, H. R., AND CO.:
Kidderminster.
10. WILLIS, WILLIAM HENRY, AND CO.:
80, Long Acre, London.
86. WILLS, JOHN:
Onslow Crescent, South Kensington, London.
47. WILSON AND CO.:
Chemical Works, Jubilee Street, Mile End Road, London.
83. WILSON, BRICE:
Newbury, Berkshire.
- 58, 63. WILSON (NEWTON), AND CO.:
144, High Holborn, London.
49. WILSON, WALKER, & CO.:
Sheepscar Leather Works, Leeds.
70. WILSON, THOS.:
122, Main Street, Anderston, Glasgow.
62. WINDOVER, C. S.:
82 and 88, Long Acre, London.
17. WINFIELD, R. W., AND CO.:
Cambridge Street Works, Birmingham.
10. WOLFF, E., AND SON:
55, Great Queen Street, Lincoln's Inn, London.
54. WOLSTENCROFT, T., AND CO.:
46, Ludgate Hill, London.
30. WOOD AND BREARLEY:
Palace Street, Manchester.
66. WOOD AND IVERY, LIMITED:
Albion Works, West Bromwich.
43. WOODFIELD, WILLIAM, AND SONS:
Easemore Works, Redditch.
- 52, 68. WOODS, COCKSEGE, AND CO.:
Suffolk Iron Works, Stowmarket.
21. WOODWARD, GROSVENOR, AND CO.:
Stour Vale Mills, Kidderminster.
40. WOODWARD, JAMES, AND SONS:
64, St. James's Street, London.
22. WOOLLAWS, WILLIAM, AND CO.:
110, High Street, Manchester Square, London.

Class.

33. THE WOOLLEN MANUFACTURERS' ASSOCIATION OF THE
HUDDERSFIELD INCORPORATED CHAMBER OF COM-
MERCE:
Huddersfield.
10. WOOLLEY AND CO.:
210, High Holborn, London.
51. WOOLNOUGH, W. AND C., AND CO.:
Ceres Iron Works, Kingston-on-Thames.
13. WORNUM, ROBERT, AND SONS:
16, Store Street, Bedford Square, London.
59. WORSSAM, SAMUEL, AND CO.:
Oakley Works, King's Road, Chelsea, London.
66. WOULDHAM CEMENT CO.:
10A, King's Arms Yard, City, London.
47. WRIGHT AND HOLDSWORTH:
91, St. James's Road, Brixton, London.
75. WRIGHT, HERBERT, AND CO.:
The Diamond Brewery, Dover.
- 27, 53. WRIGHT, JOHN, AND CO.:
Essex Works, Broad Street, Birmingham.
50. WRIGHT, PETER, AND SONS:
Constitution Hill Works, Dudley.
66. WRIGHT, SUTCLIFFE, AND SON:
Adelaide Street, Gibbet Street, Halifax.
43. WRIGHT, W. B., AND CO.:
St. Philip's, Bristol.
45. WRIGHT, ROBERT:
16, Princes Street, Edinburgh.
53. WRIGHT, WILLIAM:
London Road, Highfields, Sheffield.
62. WYBURN AND CO.:
121, Long Acre, London.
47. WYNDHAM AND CO.:
37, Eastcheap, London.

Y.

28. YARDLEY AND CO.:
7, Vine Street, Bloomsbury, London.
12. YORK, FREDERICK:
87, Lancaster Road, Notting Hill, London.
47. YORKSHIRE VARNISH CO.:
39, Upper Thames Street, London.
31. YORK STREET FLAX SPINNING CO., LIMITED:
Belfast, Ireland.
75. YOUNG, J., AND SON:
Dorking.

Class.

47. YOUNG'S PARAFFIN LIGHT AND MINERAL OIL CO.,
LIMITED:
13, Dundas Street, Glasgow.

Z.

65. ZIMDARS, C. E.:
827, Gray's Inn Road, London.
60. ZUCCATO AND WOLFF:
19, Charterhouse Street, Holborn Viaduct, London.
-

ALPHABETICAL LIST OF TOWNS, WITH NAMES OF EXHIBITORS.

ABERDEEN.

BROOMHEAD, G. E.
CATTO, J.
CURR, T.
HUNTER, J.
MACDONALD, FIELD, & Co.
PIRIE, A., & SONS.
REID, B., & Co.
STEWART, S. R., & Co.
WILLIAMS, WM., & SONS.

ABINGDON.

GILBERT, W. (*Shippon*).

ACCRINGTON.

BOWDLER & BICKERDYKE (*Church*).
HOWARD & BULLOUGH.

ALLOA.

BAILLY, W. & J. A.

ALVA.

ROSS, W., & SONS.

ARROATH.

SHANKS, A., & SON.

ARMAGE.

MURPHY & REYNOLDS.

ATLESBURY.

MACKRILL, E. T., & Co.

BAIRSTOW.

WELDON, W.

BALEBRIGGAN.

SMYTH & Co.

BANBURY.

BANBURY BREWERY Co.
BARROWS & STEWART.
SAMUELSON & Co.

BARNARD CASTLE.

ULLATHORNE & Co.

BARNLEY.

McLINTOCK, J., & SONS.

BARROW-IN-FURNESS.

BARROW FLAX & JUTE Co., LIMITED.
BARROW SHIPBUILDING Co.

BATH.

CARE, I., & Co.
CLARK, CAPTAIN EDWARD P.

BATLEY.

HALL, T. H.
SHEARD, M., & SONS.
STUBLEY, G. & J.

BEDFORD.

BIFFEN, W. H., JUNR.
HOWARD, J. & F.

BELFAST.

ANDERSON, D., & SON.
ANDREWS, M.
CANTRELL & COCHRANE.
COMBE, BARBOUR, & COMBE.
CORY, W., & Co.
COTTON, S.
COUNTY DOWN FLAX SPINNING AND
WEAVING COMPANY, LIMITED.
DARRAGH, T.
DUNVILLE & Co.
GIBSON, W.
GREENMOUNT SPINNING COMPANY.
GUYNET, L. H., & Co.
JAFFE BROTHERS.
MC CREERY, J.
MUSGRAVE & Co., LIMITED.
YORK STREET FLAX SPINNING
COMPANY, LIMITED.

BESSBROOK.

BESSBROOK GRANITE COMPANY.

BOWLEY.

POOLE, EDWARD.

BINGLEY.

FOSTER, W. & H.
WHITE, J., & SONS.

BIRKENHEAD.

LAIRD BROTHERS.

BIRMINGHAM.

ALEXANDRE, J.
ASH & LACY.
ASHFORD & WINDER.
ASTON, WILLIAM.
BAKER, C., & SON.
BOWN, WM.
CAMM BROTHERS.
CASTLE IRON COMPANY. *See NINT-
LEFOLDS.*
COOKE, J., & Co.
COOKE BROTHERS.
COPPARD, J., & Co.
DAVIS & WILSON.
DUVALLON & LLOYD.
EDGE, C. A.
ELKINGTON & Co.
EVERITT, A., & SONS.
FRANCIS, T., & Co.
GILLOTT, J., & SONS.

BIRMINGHAM—cont.

GREENER, W. W.
 HARDMAN, J., & Co.
 HARRIS, G. H.
 HINKS, WELLS, & Co.
 IMPERIAL WIRE COMPANY. *See*
 NETTLEFORDS.
 JONES & WILLIS.
 KYNOCH & Co. (*Witton*).
 LEONARDT & Co.
 LEVETUS BROTHERS.
 LEWIS, G. E.
 MARTINEAU & SMITH.
 MAY & MOUNTAIN.
 MÜLLER, H. L.
 NETTLEFOLDS.
 OSLER, F. & C.
 PATENT NUT & BOLT COMPANY.
 PERRY & Co., LIMITED.
 PEYTON & PEYTON.
 PHILLIPS, ALBERT.
 READ, J.
 RYDER, W. H.
 SCOTT, W. & C., & SON.
 SHAMMON, W.
 SICKER SAFE AND STRONG ROOM
 COMPANY (*Soho*).
 SOUTHALL, BROTHERS, & BARCLAY.
 STORMONT, J. G.
 TANGYE BROTHERS.
 TAYLER, D. F., & Co.
 TOLLEY, J. & W.
 VIVIAN, H. H., & Co.
 WIGGIN, H., & Co.
 WINFIELD, R. W., & Co.
 WRIGHT, J., & Co.

BLACKBURN.

LIVESSEY, H., LIMITED.

BOLTON.

ASHWORTH, E., & SONS.
 DOBSON & BARLOW.
 JACKSON & BROTHER.
 JULIAN, H.
 WOOD & BREARLEY (and at Man-
 chester).

BOSTON.

CHEAVIN, G.

BOURTON.

HINDLEY, E. S.

BRADFORD.

BATEMAN, D., & SONS (*Low Moor*).
 BINNS ENDLESS BAND COMPANY
 (*Low Moor*).
 DAWSON, MARK, & SON (*Bowling*).
 FOSTER, J., & SON (*Queensbury*).
 GLOVER, H., SON, & Co., LIMITED.
 HALLEY, ALFRED, & Co.
 HEATON, J. A.
 HEMMINGWAY, S., & Co.
 HODGSON, G.

BRADFORD—cont.

HOLME, G.
 INGHAM, J., & SONS (*Thornton*).
 JARRATT BROTHERS.
 PRIESTMAN, J., & Co.
 RIPLEY, E., & SON.
 SOWDEN, DAVID, & SONS.
 STANSFELD, BROWN, & Co.
 TANKARD, J. (*Bowling*).
 WALWORTH, J., & Co.

BRENTFORD.

THOMAS, A. E.
 WILLIAMS, THOMAS, & DOWER.

BRIDGENORTH.

SOUTHWELL, H. & M.

BRIDGEWATER.

COLTHURST, SYMONS, & Co.
 DUNBALL STEAM POTTERY, TILE, &
 BRICK COMPANY.
 ROBERTS, J., & SONS.

BRIGHOUSE.

GOODALL, A., & SONS.

BRIGHTON.

BOUCHER, A.
 HAMILTON, W.
 LOMBARDI & Co.
 LONDON, BRIGHTON, AND SOUTH
 COAST RAILWAY COMPANY.
 MUTTON, T., & Co.
 PUNSHON, R.

BRISTOL.

ALLEN, T.
 ARTHUR, J., & Co.
 BRIGHTMAN BROTHERS.
 BRISTOL WAGON WORKS COMPANY.
 BUSH & DE SOYRES.
 EVANS, P. AND S., & Co.
 FOX, WALKER, & Co.
 FRY, J. S., & SONS.
 GIBBS, GEORGE.
 HARE, J., & Co.
 TERRELL, W., & SONS.
 TRIGGS & BENSON.
 WRIGHT, W. B., & Co.

BROMSGROVE.

CORBETT, J., M.P.

BROSELEY.

MAW & Co.

BUDLEIGH SALTERTON.

SHERLOCK, W.

BURNLEY.

PARKINSON BROTHERS.

BURSLEM.

BATES, WALKER, & Co.
 HOPE & CARTER.
 PINDER, BOURNE, & Co.

BURTON-ON-TRENT.

BINDLEY & Co.
 IND, COOFE, & Co. (and at Rom-
 ford).

BURY.

CROMPTON, J. R.
HACKING & CO.
HALL, R.

BURY ST. EDMUNDS.

BOBY, R.
LE BUTT, J.

CAMBRIDGE.

CONSTABLE, W. H.
SCHNEIDER, E. A.

CAMELFORD.

KINSMAN, REV. PREBENDARY.

CARDIFF.

CAMBRIAN PATENT FUEL COMPANY.
GREAT WESTERN COLLIERY COM-
PANY.
LONDON AND SOUTH WALES COAL
COMPANY, LIMITED.
PALMER, MORGAN, & CO.
TYLOR, A., & CO.

CARLISLE.

FERGUSON BROTHERS.
PALMER & STORY.

CARNARVON.

PEN-YR-ORSIEDD SLATE QUARRY
COMPANY.

CHELMSFORD.

COLEMAN & MORTON.

CHELTENHAM.

COLTMAN, W.

CHESTER.

HYDRAULIC ENGINEERING COM-
PANY, LIMITED.
TAYLOR, H. E.

CHESTERFIELD.

ROBINSON & SONS.

CHIPPENHAM.

PICTOR & SONS (*Box*).

CHIPPING NORTON.

BLISS, W., & SON.

CHELSEA.

UHLRICH, H. S.

CHURCH (LANCASHIRE).

BOWDLER & BICKERDIKE.

COALBROOKDALE.

COALBROOKDALE COMPANY.

COATERIDGE.

DUNNACHIE, J.

COLCHESTER.

DAVEY, PAXMAN, & CO.
WARMINGTON, F. W., & CO.

CORK.

CLANCHY, T. J.
CORK DISTILLERIES COMPANY.
JENNINGS, T.
MAHONY, M., & BROTHERS.

COVENTRY.

HAYNES & JEFFERIS.
SMITH, STARLEY, & CO., LIMITED.

COWES, ISLE OF WIGHT.

MAT, G. H., & CO.

CROYDON.

ARNOLD & COLDWELLS.
EBBUTT, A. C.

DENBIGH.

EVANS, E. (*Nantglyn*).

DERBY.

DEAN, W., & SON.
EVANS, W., & CO.
HOLMES, C.
HOLMES, G. E.
HOLMES, H. M., JUNR.
HUMBLE, S.
LEECH & NEAL.
LONGDON, F., & CO.
PETERS & CO.

DEWSBURY.

HEPWORTH, B., & SON.

DORKING.

YOUNG, JOHN, & SON.

DOVER.

WRIGHT, H., & CO.

DRIFFIELD.

TAYLOR'S PATENT SEWING MACHINE
COMPANY, LIMITED.

DUBLIN.

APPLEYARD, H., & CO.
BEWLEY & DRAPER.
BOYD, SON, & CO.
CANTRELL & COCHRANE (and Bel-
fast).
DUGGAN, T. (*Glasnevin*).
FETHERSTON, J. J.
GOGGIN, J.
GOULDING, W. & H. M., & Co.,
LIMITED.
GRUBB, H.
JACQUES, Z.
KELLY & DUNN.
KERR, E., JUN.
KINAHAN & CO.
LENNAN & SON.
MARLBOROUGH, DUCHESS OF.
PIM, BROTHERS, & CO.
REILLY, F.
SMITH & CO. (and Balbriggan).
SWAN, C.

DUDLEY (STAFFORDSHIRE).

HILL & SMITH (*Brierley Hill*).

**DUDLEY (WORCESTER-
SHIRE).**

HANCOCK, F. & C.
WRIGHT, P., & SONS.

DUNDEE.

BALLINGALL & SON.
 BUTCHART, LINDSAY, & CO.
 GRANT, J. (*Strathmartine*).
 GRIMOND, J. & A. D.
 LIVIE, D.
 THOMPSON, W. B.

DURHAM.

HENDERSON & CO.
 LONDONDERRY, MARQUIS OF.
 ULLATHORNE & CO. (*Barnard Castle*).

HALING.

DUNLOP, R. H. W.

EDINBURGH.

AITCHISON, J.
 BARTHOLOMEW, J.
 BLACK, A. & C.
 BLACKWOOD, W., & SONS.
 BROWN BROTHERS.
 CAIRNS, PETER (*Portobello*).
 COWAN, A., & SON.
 COWAN, W. & B. (and Manchester).
 CRAIG, CHRISTIE, & CO.
 CUNNINGHAM, A., & CO.
 CURRIE, W., & CO.
 DICKSON, W., & CO.
 FLEMING, A. B., & CO.
 HALL, T.
 HENRY, A.
 JENKINSON, A.
 JOHNSTON, W. & A. K.
 LOTH, J. T.
 MACFARLAN, J. F., & CO.
 MACKAY, JOHN, & CO.
 MACKAY, CUNNINGHAM, & CO.
 MARSHALL, W., & CO.
 MIDDLEMASS, J., & CO.
 MIDDLEMASS, R.
 MILLAR, J., & CO.
 MINOLA, N.
 SCOTTISH VULCANITE COMPANY.
 SMITH, T. O.
 SMITH, T. & H., & CO.
 STUART, J. & W. (*Musselburgh*).
 THOMSON, J., & SONS.
 WATERSTON, G., SONS, & STEWART.
 WIDNELL, H., & CO. (*Lasswade*).
 WRIGHT, R.

ELGIN.

JOHNSTON, J., & CO.

EXETER.

HEMS, H.

FARNHAM.

BEVAN, J. J.

FAVERSHAM.

MACKIE, S. J.

FENTON.

EDWARDS, J.

FROME.

FUSSELL, J., SONS, & CO. (*Mells*).
 SINGER, J. W., & SON.

GAINSBOROUGH.

MARSHALL, SONS, & CO., LIMITED.

GALASHIELS.

BOGUE, LEES, & CO.
 BROWN BROTHERS.
 BROWN, W., & SONS.
 COCHRANE, A. L., & BROTHERS.
 MITCHELL, COATS, & CO.
 SANDERSON, H., & SON.
 SANDERSON, R. & A., & CO.

GATESHEAD-ON-TYNE.

BAINBRIDGE & CRIMSON.
 BLACK, HAWTHORN, & CO.
 NEWALL, R. S.

GLASGOW.

ALLEY & MACLELLAN.
 BALLARDIE, D.
 BARBOUR & MILLER.
 BLACKIE & SON.
 BLACKIE, W. G., & CO.
 BLACKLOCK, GOUDIE, & CO.
 BOYLE, R., & SON.
 BRITISH AND FOREIGN MINERAL
 WATER COMPANY.
 BUCHANAN, J.
 CARRUTHERS & ALLAN.
 DALGLISH (R.), FALCONER, & CO.
 GARDNER, A., & SON.
 GLENBOIG FIRE CLAY COMPANY.
 HENDERSON, J., & CO.
 HILL, C. E., & CO.
 HURLET & CAMPSIE ALUM CO.
 HUTCHISON, ROBERT.
 LIPMAN & CO.
 MACLELLAN, P. & W.
 MACTEAR, J.
 MARSHALL, R.
 MITCHELL & WHYTILAW.
 NORTH BRITISH CHEMICAL COM-
 PANY, LIMITED.
 OAKBANK OIL COMPANY, LIMITED.
 READMAN, J. B.
 SINGER MANUFACTURING COMPANY.
 STEEDMAN & McALLISTER.
 STIRLING, W., & SONS (*Renton*).
 STORER, D., & SONS.
 TEMPLETON, J., & CO.
 TEMPLETON, J. & J. S.
 TENNANT, C., & CO.
 THOM & LAWSON.
 THOMSON, JAS. & GEORGE.
 THOMSON, STERNE, & CO., LIMITED.
 THOMSON, SIR WILLIAM.
 TULLIS, J., & SON.
 WALKER, JOHN.
 WILSON, T. (*Anderston*).
 YOUNG'S PARAFFIN AND MINERAL
 OIL COMPANY, LIMITED.

GLASTONBURY.

CLARK, SON, & MORLAND.

GLOUCESTER.

KELL, MEATS, & CO.

GLYN NEATH.

ABERNANT IRONWORKS AND COLLIERIES CO.

GODALMING.WHITBURN & YOUNG (*Milford*).**GRANTHAM.**COULTAS, J. (*Spittlegate*).
HORNSBY, R., & SONS.**GREAT YARMOUTH.**

BURGH CASTLE PORTLAND CEMENT COMPANY, LIMITED.

GREENWICH.HOLLICK & CO.
PENN, J., & SONS.**GUILDFORD.**

BROWNRIGG, T. M.

GUNWISLAKE.

TAMAR & KIT HILL GRANITE COMPANY.

HALIFAX.AKROYD, JAMES, & SON, LIMITED.
CLAYTON, MARSDENS, HOLDEN, & CO., LIMITED.
CROSSLEY, J., & SONS, LIMITED.
GRAHAM, S. J. CROOK, & CO.
HADWEN, J., & SONS.
HARTLEY & SUGDEN.
LUMBY, E.
SCARBOROUGH BROTHERS.
SMITH, F., & CO.
SMITH, M. H.
SMITHSON, J., & CO.
WADSWORTH, R.
WRIGHT, SUTCLIFFE, & SON.**HALSTEAD.**HUNT & TAWELL (*Earl's Colne*).**HANLEY.**ADAMS & BROMLEY.
BROWN-WESTHEAD (T.C.), MOORE, & CO.
WENGEE, A.**HASTINGS.**

ROCK & HAWKINS.

HATFIELD.

VARLEY, S. A.

HAWICK.ALEXANDERS & CO.
WATSON, W., & SONS.**HENDON.**

WESTLAKE, N. H. J.

HOUGHTON REGIS.

BROOKS, R.

HUDDERSFIELD.ARMITAGE, BROTHERS.
BARBER, JOSHUA, & SONS.
BRIER, G.
BROOK, JONAS, & BROTHERS.
BROOKE, E., & SONS.
BROOKE, JAMES, & SON.
BROWN, JOHN.
CHILD, WILLIAM (*Shelley*).
CLEGG, JESSE.
DENHAM, J. W., & CO.
DYSON, JOSEPH, & SONS.
GLEDHILL, THOMAS (*Golcar*).
GRIST BROTHERS.
HAIGH, GEORGE.
HICK, W.
HOPKINSON, J., & CO.
INCORPORATED CHAMBER OF COMMERCE.
INMAN BROTHERS.
MELLOR, T., & SON.
SANDERSON & CO.
SHAW, J., & CO.
SYKES, GODFREY, & SON.
TAYLOR & LITTLEWOOD.
TAYLOR & CO. (*Golcar*).
TAYLOR, J. T., & CO.
THOMSON, WILLIAM, & SONS.
TURNER, J. BROOK, & CO.**HULL.**

PRIESTMAN BROTHERS.

HUNTINGDON.

WINDOVER, C. S.

INVERNESS.

FRASER & SMITH.

IPSWICH.PACKARD, E., & CO.
RANSOMES, SIMS, & HEAD.
TURNER, E. R. & F.**IRONBRIDGE.**

CRAVEN, DUNNILL, & CO., LIMITED.

JERSEY.BAUDOUX, C. E. (*St. Heliers*).
LAURENDEAU, P. (*St. Heliers*).
LUCE, GEORGE.**KINGLEY.**

HATTERSLEY, G., & SONS.

KELSO.

SHIELS, J.

KETTERING.SALMON & CO.
SMITH, W., & SON.**KIDDERMINSTER.**BRINTON, J., & CO.
HATTON, SONS, & CO. (and at Bilston).

KIDDERMINSTER—cont.

HOLLINGTON, JOSEPH (*Wolverley*).
 TOMKINSON & ADAM.
 WILLIS, H. R., & CO.
 WOODWARD, GROSVENOR, & CO.

KILMARNOCK.

KENNEDY'S PATENT WATER METER
 COMPANY, LIMITED.

KINGS LYNN.

DODMAN, A.
 FLOWRIGHT, JAMES.

KINGSTON-ON-THAMES.

FRY, S.
 WOOLNOUGH, W. & C., & CO.

KIRKCALDY.

McINTOSH, A. H.
 NAIRN, M., & CO.

KNOTTINGLEY.

BAGLEY, WILD, & CO.

LANCASTER.

THOMPSON, W., & CO., LIMITED.

LANGHOLM.

McLAURIN, P., SON, & CO.

LEAMINGTON.

MULLINER, H.

LEEDS.

ANDERSON, C.
 BIRCHALL, J. D., & CO.
 BROOK, J. & D. (*Morley*).
 CLIFF, J., & SONS.
 DODGSHUN, J., & CO.
 EDDISON, T.
 EMBLETON, MACKENZIE, & CO.
 (*Hunslet*).
 FAIRBAIRN, KENNEDY, & NAYLOR.
 FITCH, J. J., & SON.
 FOWLER, J., & CO.
 GREAVES, W.
 GREENWOOD & BATLEY.
 HARGREAVE & NUSSEYS.
 HATHORN, DAVIS, & DAVEY.
 HOLMES, JOSEPH.
 HUDSON, SYKES, & BOUSFIELD
 (*Morley*).
 LABRON, J.
 LAWSON, S., & SONS.
 LEEDS FORGE COMPANY, LIMITED.
 LEPRINCE, L. A. A.
 LUPTON, W., & CO.
 McLAREN, J. & H.
 MARSDEN, H. R.
 MARSH, JONES, & CRIEB.
 MARSHALL & Co. (and at Shrews-
 bury).
 MAW, T.
 NEWSUM, WOOD, & DYSON.
 PAUL, W.
 PEEL, J. (*Pudsey*).

LEEDS—cont.

PICKSLEY, SIMS, & CO., LIMITED.
 RICKARDS, C. A.
 SOUTHALL, C. H.
 WALKER, J.
 WILSON, WALKER, & CO.

LEEK.

BROUGH (J. & J.), NICHOLSON, & CO.
 GIBSON, S., JUNR.
 WARD, A., & CO.
 WATSON & CO.

LEICESTER.

DONISTHORPE, A. R.
 RICHARDSON, J., & CO.
 SMITH, J. W.
 STAFFORD, J., SONS, & OSWIN.
 TURNER, A., & CO.

LEIGH.

HARRISON, MCGREGOR, & CO.
 PICKSLEY, SIMS, & CO., LIMITED.

LEIGHTON BUZZARD.

KING, W.

LEISTON.

GARRETT, R., & SONS.

LEITH.

CUNNINGHAM, A., & CO.
 MASON & CO.

LINCOLN.

CLAYTON & SHUTTLEWORTH.
 PENNEY & CO., LIMITED.
 RAINFORTH, W., & SONS.
 ROBEY & CO.
 RUSTON, PROCTOR, & CO.
 SLINGSBY, R.

LISBURN.

BARBOUR, W., & SON.

LIVERPOOL.

ADAIR & CO.
 ANGLO-AMERICAN ROPE & OAKUM
 COMPANY.
 BARR, P. W., & CO.
 CHADBURN & SON.
 CUNARD, BURNS, & MACIVER.
 CUNNINGHAM, SHAW, & CO.
 DAVIES & SNEADE.
 DREAPER, W. H. & G. H.
 GORDON, A. McC., & CO.
 GRIFFITHS, FLETCHER, & BERDOE.
 HIGGIN, T. (and at Northwich).
 INMAN STEAMSHIP COMPANY.
 LIVER ALKALI WORKS COMPANY,
 LIMITED.
 LIVERPOOL SPUN OAKUM COMPANY.
 MEYER, J. F.
 MULLINER, FRANCIS.
 PHILIP, G., & SON.
 ROBERTS, W. (*Bootle*).

LIVERPOOL—cont.

RUNCORN SOAP & ALKALI COMPANY, LIMITED.
 SILICATE PAINT COMPANY.
 TREGAY, ALFRED.
 WHITE STAR LINE.

LIVERSEDGE.

COCKILL, J., & SONS.
 COOKE, SONS, & CO.

LLANWELLY.

MOREWOOD, E., & CO.

LONDON.

(See page 82.)

LONGTON (STAFFORDSHIRE).

ALLERTON, C., & SONS.

LOUGHBOROUGH.

HUGHES' LOCOMOTIVE AND TRAMWAY ENGINE CO., LIMITED.

LURGAN.

MURPHY, J., & SON.

LUTON

LYE, THOMAS.

LYTHAM.

HEDGES, D.

MACCLESFIELD.

BIRCHENOUGH, J.
 BROCKLEHURST, J. T., & SONS.
 CORNES, W. W., & CO.
 CRITCHLEY, BRINSLEY, & CO.
 HARLOW, B.
 JACKSON, J. & F.
 NICHOLSON, J. O.

MALDON.

BENTALL, E. H., & CO.
 MALDON IRONWORKS COMPANY, LIMITED.

MANCHESTER.

ANDREW, BURROWES, & ATKINS.
 ARMITAGE, E., & SONS.
 ASHTON, F. W., & CO.
 BARLOW & JONES, LIMITED.
 BEHRENS, LOUIS.
 BOULINIKON FLOOR CLOTH COMPANY (*Salford*).
 BRADFORD, T., & CO. (*Salford*).
 BROUGHTON COPPER COMPANY, LIMITED.
 BROWN, Linstead, & Co.
 BYROM, R. (*Delph*).
 CHRISTY, W. M., & SONS, LIMITED.
 COCKSHOOT, J., & CO.
 CREWDSON, CROSSES, & CO., LIMITED.
 DACCA TWIST COMPANY.
 EDWARDS, W. J.
 ERMEN & ROBY.
 FLETCHER, R., & SON (*Stoneclough*).
 FOLLOWS & BATE.
 GALLOWAY, W. & J., & SONS.

MANCHESTER—cont.

GOLDSWORTHY, T., & SONS (*Hulme*).
 HALL, RALPH, & CO. (and at Oldham).
 HALL, LAURENCE.
 HAWKINS, J., & SONS.
 HOLLAND, W., & SONS.
 HORROCKSES, MILLER, & CO. (and at Preston).
 HOWORTH, J. (*Farnworth*).
 JOHNSON, CLAPHAM, & MORRIS.
 JOHNSON (JABEZ) & FILDES.
 KESSELMAYER, C. A.
 LAMB, J.
 LEVINSTEIN, L. J., & SONS (*Blackley*).
 LINDEMANN, A. C. (*Hulme*).
 LYONS, W.
 MACKINTOSH, C., & CO.
 MARTIN, W.
 MASSEY, B. & S. (*Openshaw*).
 MATHER & PLATT.
 MITCHELL, BROTHERS (*Waterfoot*).
 NEAVE, S., & SONS.
 NEVILLE, J.
 OGDEN, H., & SON.
 PATENT VELVET COMPANY.
 PROTECTOR LAMP AND LIGHTING COMPANY.
 RICHMOND & CHANDLER (*Salford*).
 ROBERTS, J.
 SCHWABE, SALIS, & CO.
 SCHWANN, MODERA, & CO.
 SELIGMANN & HAARBLEICHER (and at Middleton).
 SHARP, STEWART, & CO., LIMITED.
 SHAW, HENRY, & CO. (*Dukinfield*).
 SLAZENGER & SONS.
 SMITH & COVENTRY.
 SPENCE, P.
 STAFFORD, S.
 SWAINSON, BIRLEY, & CO. (and at Preston).
 TOOTAL-BROADHURST, LEE, & CO.
 TWIBILL, J.
 VERNON & FREEMANTLE.
 WATERS, J. & E., & CO.
 WHITLEY, JOHN R. (*Didsbury*).
 WHITWORTH, SIR J., & CO.
 WILLIAMS, SONS, & BROOKES.
 WINDOVER, C. S.
 WOOD & BREARLEY.

MANSFIELD.

BARRINGER & BROWN.
 GREENHALGH & SONS.
 MEADOW FOUNDRY COMPANY.

MIDDLEBROUGH.

NORTH OF ENGLAND IRON MANUFACTURERS' ASSOCIATION, AND CLEVELAND IRONMASTERS' ASSOCIATION.

MUSSELBURGH.

STUART, J., & W.

NEWARK-ON-TRENT.

NICHOLSON, W. N., & SON.

NEWBURY.BAKER, T. (*Compton*).
WILSON, BRICE.**NEWCASTLE-ON-TYNE.**BROOMHILL COAL CO.
BURNHOPE COAL CO.
CRAMLINGTON COAL CO.
MAWSON & SWAN.
PALMER'S SHIPBUILDING AND IRON
COMPANY, LIMITED (*Jarrow*).
RAMSAY, G. H.
ST. BEDE CHEMICAL CO., LIMITED.
SOUTH DERWENT COLLIERY CO.
TWEDDELL, MACLAREN, & CO.
TYNE ALKALI CO., LIMITED.
WASHINGTON CHEMICAL CO.
WATSON, H.**NEW MALDEN.**

WHITE, W. G.

NEWPORT (MONMOUTH-SHIRE).DAVIES, D. (*Crumlin*).**NEWRY.**

CAMPBELL, H., & SON.

NEWTON ABBOT (DEVON).

CANDY & CO.

NEWTOWN (MONTGOMERY-SHIRE.)JONES PRYCE.
WELSH WOOLLEN MANUFACTURING
CO., LIMITED.**NORTHALLERTON.**WILFORD, J., & SONS (*Brompton*).**NORTHAMPTON.**BOSTOCK, E. & F. (and at *Stafford*).**NORWICH.**BARNARD, BISHOP, & BARNARDS.
BOULTON & PAUL.
CHAMBERLIN, J.
CLABURN, SONS, & CRISP.
COLMAN, J. & J.
COLMAN & GLENDENNING.
HAWES, G. E.
HOLMES & SONS.
HOWES, H. W.
HOWES & SONS.
MINNS, J.
NORWICH CRAPE COMPANY.
RICHES & WATTS.
THORN, C.**NOTTINGHAM.**ADAMS, T., & CO., LIMITED.
DOBSON, T. S., & CO.
KULF, H. N., & SON.
MALLET, H., & SONS.
NEWBOLD, E.**NOTTINGHAM—cont.**NOTTINGHAM MALLEABLE IRON
COMPANY, LIMITED.NOTTINGHAM MANUFACTURING COM-
PANY, LIMITED.

PATCHITT, E. C.

PATTERSON, W., & SONS.

SIMON, LOUIS, & SON.

STIEBEL, KAUFMANN, & CO.

TATHAM, W., & CO.

OLD CHARLTON.

MARTIN, R.

OLDHAM.

BRADBURY & CO., LIMITED.

HALL, RALPH, & CO.

PLATT, BROTHERS, & CO., LIMITED.

WILDE, J., & SON.

OXFORD.

SPIERS & SONS.

WHEELER, W. H.

PADDEHAM.

BLEZARD, J., & SONS.

PAISLEY.

BOYD, J., & SONS.

CARLILE, J., SONS, & CO.

CLARK & CO.

CLARK, J., & CO.

COATS, J. & P.

CRAIG, A. F., & CO.

SNODGRASS, J.

STODDARD, A. F., & CO.

PEASENHALL.

SMYTH, J., & SONS.

PENLANOE.PERRY, W. T. L. (*Mounts Bay*).**PERSHORE.**

HUMPHRIES, E.

PERTH.

MONCRIEFF, J.

PETERBOROUGH.

BARFORD & PERKINS.

HAYES, H., & SON.

PETERHEAD, SCOTLAND.

GRANT, R.

PETERHEAD GRANITE POLISHING
COMPANY.**PLYMOUTH.**

BURNARD, LACK, & ALGER.

FOURACRE (J. T.) & WATSON.

GREENWAY, H.

JAMES, E., & SONS.

PORTMADOC.

CWMORTHIN SLATE CO., LIMITED.

PORTSMOUTH.

KNIGHT, S.

PRESTON.

EASTWOOD, J., & CO., LIMITED.

IRVIN & SELLERS.

WHITEHEAD, J., & CO.

RAMSGATE.

SOUTHER, A. P.

RAVENSTHORPE.

EWART, R.

READING.BARNES, F. (*Tylehurst*).

FERGUSON & SON.

HUNTLEY & PALMERS.

SIMS, W.

SIMS & SON.

SOPER, W.

SUTTON & SONS.

WILDER, J.

REDDITCH.

ALLOOCK, S., & Co.

AVERY, W., & SON.

BARTLEET, W., & SONS.

CHAMBERS, G., & Co.

CLARKE, H., & Co.

MILWARD, H., & SONS.

SMITH, J., & SON (*Astwood Bank*).

THOMAS, S., & SONS.

TURNER, R., & SONS.

WOODFIELD, W., & SONS.

REIGATE.BAXTER, R. C. (*Hethersett*).**RIPLEY.**

MITCHELL, W.

RIPON.

KEARSLEY, G.

PARKINSON, W.

ROCHDALE.

ASHWORTH, M., & Co.

HAMILTON, J.

LORD, E., & Co.

MCNAUGHT, J. & W.

NICHOLSON, H.

ROBINSON, T., & Co.

WILLANS, T. B., & Co.

ROCHESTER.

AVELING & PORTER.

DE MICHELE, V. D.

WOULDHAM CEMENT COMPANY.

ROTTERHAM.

SPENCER, W., & Co.

ROTHWELL.

BALL, W., & SON.

ST. ALBANS.

TURNER, F. W.

ST. AUSTELL.

THRISCUIT & BALE.

ST. HELENS.

GLOVER, W. J. & Co.

ST. LEONARDS-ON-SEA.

GODBOLD AND BASERE.

SALISBURY.

FOLEY, A.

SELKIRK.

BRYDONE & BROWN.

SHARDLOW, DERBYSHIRE.HOOKER'S CREAM MILK COMPANY,
LIMITED.**SHEFFIELD.**

ADDIS, J. B., & SONS.

ANDREW, J. H., & Co.

BAGSHAW, F. W.

BEARDSHAW, H.

BEDFORD, J., & SONS.

BROOKES & CROOKES.

BROWN, BAYLEY, & DIXON, LIMITED.

BROWN, JOHN, & Co., LIMITED.

BURY AND COMPANY, LIMITED.

CAMMELL & Co.

COLVER BROTHERS.

CROWLEY, J., & Co.

GRAY, J., & Co. (*Moor*).

GREEN, C.

HADFIELD STEEL FOUNDRY COM-
PANY.HALLAM BROTHERS (*Ecclesfield*).

HATTERSLEY, E. J., & Co., LIMITED.

HEWITT, J., & Co.

JESSOP, W., & SONS, LIMITED.

JONAS, MEYER, & COLVER.

JOWITT, T., & SONS.

LONGDEN & Co.

RIDGE, WOODCOCK, & HARDY.

RODGERS, J., & SONS, LIMITED.

SAVILE STREET FOUNDRY AND EN-
GINEERING COMPANY, LIMITED.

SAYNOR, COOKE, & RIDAL.

SEEBOHM & DIECKSTHAL.

SHAW, J.

SHAW & FISHER.

SPENCER, J. R., & SON.

STEEL & GARLAND.

STEPHENSON, BLAKE, & Co.

TURTON, T., & SONS.

WARDROBE & SMITH.

WRIGHT, W.

SHEPTON MALL.ANGLO-BAVARIAN BREWERY COM-
PANY.

LOADER, C.

SHIPWAL.

LILLESHELL COMPANY.

SNEDSHILL IRON COMPANY.

SHERWESBURY.

CORRETT & PEELE.

LOWCOCK & BARR.

MARSHALL & Co.

SHEPPERD, W. H.

SKIPTON.

DEWHURST, J., & SONS.

SOUTHALL.

ABBOTT, C. N.

SOUTHAMPTON.

HALL, A. W., & Co.
PATSTONE, JOHN.
PEIRCE, W. A.
PORTER, J. H.

SOUTHPORT.

HOWARTH, R.
TICE, W.

STAFFORD.

BOSTOCK, E. & F. (and at North-
ampton).

STAFFORDSHIRE POTTERIES

ALLERTON & SONS.
BROWN-WESTHEAD (T. C.), MOORE,
& Co.

STAINES.

LINOLEUM MANUFACTURING COM-
-PANY, LIMITED.

STAIR.

MONTGOMERIE, J. C. (*Dalmore*).

STALEYBRIDGE.

BROADBENT & SON.

STAMFORD.

HAYES, HENRY, & SON.
JEFFERY AND BLACKSTONE.

STIRLING.

SMITH, R., & SON.

STOCKPORT.

LOWE, C., & Co. (*Reddish*).

STOCKTON-ON-TEES.

HEAD, WRIGHTSON, & Co.
PICKERING, J.
WHITWELL, T.

STONE-ON-TRENT.

CAMPBELL BRICK & TILE COMPANY.
GRANVILLE, THE EARL, K.G.
MINTON, HOLLINS, & Co.
MINTONS.
SHELTON BAR IRON COMPANY.
WEDGWOOD, J., & SONS

STONEHAVEN.

KNOWLES, J. & G.

**STONEHOUSE (GLOUCESTER-
SHIRE).**

HOOPER, C., & Co.

STOURBRIDGE.

GIBBONS, B., JUNR. (*Lower Gornal*).
HARPER & MOORES.
HARRISON, G. K.
HODGETTS, RICHARDSON, & SON.
KING BROTHERS.
WEBB, E., & SONS.
WEBB, T., & SONS.

STOURPORT.

BALDWIN, E. P. & W. (*Wilden*).

STOWMARKET.

WOODS, COCKSEGE, & Co.

STRATFORD.

BOAKE & Co.
GIDNEY, CLARK, & Co.

STROUD.

MARLING & Co.
RITCHIE, A., & Co.
STANTON & SON.

SUNDERLAND.

ROUTLEDGE, T.
RHYOPE COAL CO., LIMITED.
SUNDERLAND SHIPBUILDERS' ASSO-
CIATION.

SUTTON-IN-ASHPFIELD.

SAMPSON BROTHERS.

SWANSEA.

COMPAGNIE HOUILLIÈRE DE GRAI-
GOLA.
EVANS, D. & H. C.
SWANSEA TIN-PLATE COMPANY.
WESTERN MERTHYR COAL AND
FUEL COMPANY, LIMITED.

THIRSK.

BAMLETT, A. C.
BAXTER, R.

TILlicouLTRY, SCOTLAND.

PATON, J. & D., & Co.

TORQUAY.

TORQUAY TERRA COTTA Co.

TRING.

ROTHSCHILD, LADY E. DE.

TROWBRIDGE.

CLARK, JOHN & THOMAS.
HEWITT & KEMP.
SALTER, S., & Co.

TUNBRIDGE WELLS.

NORMAN, C., & Co.
ROBINSON, H. P.
ROMARY, ALFRED.

TUNSTALL.

BROWNHILLS POTTERY COMPANY.

TWICKENHAM.

TWINING, T.
VANSITTART, MRS. H.
WALTON, F.

ULVERSTON.

HARRISON, AINSLIE, & Co.
SALMON, BARNES, & Co.

WAKFIELD.

BONSOR, C.
GREEN, E., & SON.
HODGSON & SIMPSON.

WALKERBURN, SCOTLAND.

DALZIEL, J., & Co.

WALSALL.

ALLSOPP, C. W., & Co.
CHRISTIE, W.
HANDFORD-GREATREX, & BROTHER.
HAWKINS, J., & Co.

WALSALL—cont.

HOLDEN, E. T.
SCANLAN, JUN., & Co.

WALTHAMSTOW.

HANKS, J., & SON.

WARHAM.

PIKE, W. J.

WARMINGSTER.

CARSON & TOONE.

WARRINGTON.

GREENING, N., & SONS.
HOUGHTON, J., & SON.
HOUGHTON, W. D.
SMITH, W., & SON.
WARRINGTON WIRE ROPE WORKS
COMPANY, LIMITED (and at Liver-
pool).

WARWICK.

HOLT, FRANK.

WEDNESBURY.

LLOYD, F. H.

WEST BROMWICH.

HAMBLET, J.
HUDSON, R. S.
KENNICK, A., & SONS.
SIDDONS, J. & J.
WOOD & IVERY, LIMITED.

WEST DRAYTON.

WILKINSON, HEYWOOD, & CLARK.

WESTERHAM.

KITCHIN, J.

WYTHMOUTH.

DANON, R.

WIDNES.

DESOTO ALKALI COMPANY, LIMITED.
GOLDING, DAVIS, & Co.
HARGREAVES & ROBINSON.

WIGAN.

WIGAN COAL & IRON COMPANY,
LIMITED.

WINDSOR.

GOLD, H.
ROYAL WINDSOR TAPESTRY MANU-
FACTORY.

WINSHAM.

TRENCHARD, G., & Co.

WISBEACH.

BAKER, J.

WOOLBURN.

BUCKINGHAMSHIRE MILLBOARD CO.

WOLVERHAMPTON.

CLARK, T. & C., & Co.
DENTON, H.
MANDME BROTHERS.
MARSTON, JOHN.
MORRIS & GRIFFIN.
READS BROTHERS.

WOODBRIDGE.

FISK, A. S.

WORKINGTON.

SNELUS, G. J.
WEST CUMBERLAND IRON AND
STEEL COMPANY, LIMITED.

WORCESTER.

ROYAL PORCELAIN WORKS COM-
PANY.

WREKHAM.

EVANS, RICHARD, & Co.
BRUNTON, W., & Co.
STEVENS, T.

ALPHABETICAL LIST OF EXHIBITORS
IN THE
CITY OF LONDON AND SUBURBS.

A.

ADAMS & Co.
 ADIE, P.
 AIRE & CALDER GLASS BOTTLE
 COMPANY.
 ALDERBERT, I.
 ALDRED & SPIELMANN.
 ALLAN, J., & SON.
 ALLEN & HANBURY'S.
 ALLEN, F., & SONS.
 ALLEN, SOLLY, & CO.
 ANDERSON, ABBOTT, & ANDERSON.
 ANGLO-RUSSIAN IRON & TIN PLATE
 COMPANY, LIMITED.
 APFLEBY BROTHERS.
 ARMIT, R. H.
 ART UNION.
 ASHENHURST, J. T., & Co.
 ATKINSON, G., & Co.
 ATKINSON, J. & E.
 AUGENER & Co.
 AURORA GLASS COMPANY, LIMITED.
 AUTOTYPE COMPANY.

B.

BACON, J. L., & Co.
 BAGSTER, S., & SONS.
 BAILEY BROTHERS.
 BAISS BROTHERS & Co.
 BALL, JAMES.
 BARFF, F. S.
 BARNARD, B.
 BARNES & Co.
 BARNETT, SON, & FOSTER.
 BARRATT & ROBINSON.
 BARRON, W. J., & SONS.
 BARTRUM, HARVEY, &
 BASHFORD, G. J. ST. J
 BATTY & Co.
 BAUER, MRS. A. W.
 BAUER, G. L.
 BAXTER, W. HENRY.
 BEAU, A.
 BEAUMONT & BOLTON.
 BECK, W. H.
 BEDDOW, B., & SON.
 BEDFORD, W.

BELL, ALEX. GRAHAM.
 BELL, J. M., & Co.
 BENNETT, SIR JOHN.
 BENNETT, T., & SONS.
 BERGER, LEWIS, & SONS.
 BERGER, S., & Co.
 BERNAYS, J.
 BERTHOE BOAT CO., LIMITED.
 BERTRAM & SON.
 BEST INK Co.
 BETHELL, J., & Co.
 BETJEMANN, G., & SONS.
 BIRCHENOUGH, JOHN.
 BIRD, W., & Co.
 BIRNBAUM, B.
 BIRT, J. & A. W.
 BLACKWOOD & Co.
 BLADES, EAST, & BLADES.
 BLISS, W., & Co.
 BOAKE & Co. (*Stratford*).
 BOND, MRS. M. A. (now HICK-
 ISSION).
 BOURKE, J. H., M.D.
 BOURNE, J. & Co.
 BOWING'S PATENT FILTER PRESS
 COMPANY, LIMITED.
 BOWMAN, C.
 BRABY, F., & Co.
 BRAKELL, C.
 BRAND & Co.
 BRICE, W. A.
 BRINSMEAD, J., & SONS.
 BRITISH & FOREIGN BIBLE SOCIETY.
 BRITISH TELEGRAPH MANUFACTORY
 LIMITED.
 BRITISH XYLONITE Co., LIMITED.
 BRODGEN, J.
 BROOKE, SIMPSON, & SPILLER.
 BROOKES, VINCENT (DAY & SON).
 BROWN, B. & J., & Co.
 BROWN, E., & SONS.
 BROWN, J. B., & Co.
 BROWN, R., & SON.
 BRUCKMANN, F.
 BRUNE & Co.
 BRUNTON & TRIER.
 BUCHANAN, G. & Co.
 BULL & WILSON.
 BULLIVANT, THOS.
 BURBIDGE & ROWLEY.
 BURGESS & KEY.

BURGOYNE, BURRIDGES, & Co.
 BURNBY & Co.
 BUSH, J., & Co.
 BUSH, W. J., & Co.

C.

CALLARD & BOWSER.
 CAPEL, H.
 CARTER, J. H.
 CARTER, DUNNETT, & BEALE.
 CAVE, H. J., & SONS.
 CETTI, E., & Co.
 CHALLEN & SON.
 CHAMBERS, J., & Co.
 CHANOT, G.
 CHAPMAN, SON, & Co.
 CHATWOOD, S.
 CHRISTIE & Co.
 CHRISTY, J. E., & W. & Co.
 CHRISTY, THOMAS.
 CHRISTY, T., & Co.
 CHUBB & SON.
 CLARK & Co.
 CLARK, WILLIAM.
 CLARKE, C. PURDON.
 CLARKE, HENRY, & Co.
 CLARKE, W. G.
 CLEAVER, F. S., & SONS.
 CODD, HIRAM, & Co.
 COHNÉ, S.
 COLE, A. C., & SON.
 COLLINGRIDGE, W. H. & L.
 COLLINSON & LOCK.
 COLMAN & GLENDENNING.
 COLMAN, J. & J.
 COOK, E., & Co.
 COORE, SONS, & Co.
 COOPER, F. E.
 COOPER, H. & J.
 COOPER, J. C.
 COPPLAND, W. T., & SONS.
 COPESTAKE, HUGHES, CRAMPTON,
 & Co.
 CORBIERE, SON, & BRINDLE.
 CORCORAN, WITT, & Co.
 CORNELIJSSEN, L., & SON.
 CORTICINE FLOOR COVERING COM-
 PANY.
 COURTAULD, S., & Co.
 COWAN, ALEX., & SON.
 COWAN, W. & B.
 CRISP, E., M.D.
 CRISPIN, W. H.
 CROSSE & BLACKWELL.
 CROUCH, H.
 CROUCH, J. M.
 CROUCH, W. A.
 CROWN PERFUMERY COMPANY.
 CUBITT, WM., & Co.
 CUNNINGHAM, A., & Co.

D.

DALLMEYER, J. H.
 DANE & Co.
 DANGERFIELD, FREDERICK.
 DANIELL, A. B., & SON.
 DARTON, F., & Co.
 DAVIS'S EXCELSIOR KNIFE CLEAN-
 ING MACHINE COMPANY.
 DAVIS, J. C.
 DEBENHAM & FREEBODY.
 DEED, J. S., & SONS.
 DELL, W. R., & SON.
 DEVON GREAT CONSOLS Co.,
 LIMITED.
 DEWRANCE, J., & Co.
 DIAMOND FUEL COMPANY, LIMITED.
 DIAMOND ROCK BORING COMPANIES
 OF LONDON.
 DICKINSON BROS. & Co.
 DIXIE, M., MRS.
 DIXON, J., SONS, & TAYLOR.
 DOLLOND & Co.
 DORRINGTON, B., & Co.
 DOULTON & WATTS.
 DOULTON & Co.
 DOULTON, H., & Co.
 DRAPER, J.
 DRISCOLL, H.
 DUNLOP, R. H. W. (*Ealing*).
 DUNN & Co.
 DUNN & HEWETT.

E.

EAGLES, T. D.
 EAST & WEST INDIA DOCK COM-
 PANY.
 EDGINGTON, B.
 EDMUNDS & CATER.
 EDWARDS, G.
 ELEY BROTHERS, LIMITED.
 ELLIOTT & FRY.
 EMBLETON, MACKENZIE, & Co.
 ENGLAND, W.
 ENOCH & SONS.
 ERHARDT, H., & Co.
 ETZENSBERGER, R. U.
 EVANS, DAVID, & Co.
 EVERETT & Co.

F.

FAJJA, H.
 FAIRLIE ENGINE Co.
 FALKIRK IRON Co.
 FARMER, T., & Co.
 FARMER & ROGERS.
 FAULKNER, R., & Co.
 FAYOLLE, G.
 FEETHAM, M., & Co.
 FIELD & SONS.
 FINCH, JOHN.

FLATAU, A. & W., & Co.
 FORSTER & GREGORY.
 FOWLER, JOHN, & Co.
 FOX, C., & SON.
 FOX, J. C.
 FRANCATI & SANTAMARIA.
 FRANCIS & Co.
 FRODSHAM, G. E.
 FROST, EDWIN.
 FYFE & ROBINSON.

G.

GABRIEL, MESSRS.
 GAGE, THOMAS.
 GARDNER, J., & SONS.
 GARRETT, RHODA, & AGNES.
 GERAUT, E., & Co.
 GERRARD, A. W.
 GEYELIN & Co.
 GIBBS, J., & Co.
 GIDNEY, CLARK, & Co. (*Stratford*).
 GILLOW & Co.
 GOODALL, CHAS., & SON.
 GOODR, T., & Co.
 GRANT, S.
 "GRAPHIC," PROPRIETORS OF THE.
 GREEN & STEMBRIDGE.
 GREEN, J., & NEPHEW.
 GREEN, JAMES.
 GREEN, JOHN.
 GREGORY & Co.
 GRIFFITHS, FLETCHER, & BERDON.
 GROSVENOR, CHATER, & Co.
 GROUT & Co.
 GRUNEBBAUM, J.
 GUY, H. A., & Co.
 GWYNNE & Co.
 GWYNNE, J. & H.

H.

HALE-MACDONALD WAR ROCKET
 COMPANY.
 HALFORD, JAMES V.
 HALL, JULIUS.
 HAMMER, G. M.
 HAND-POWER ROCK DRILL Co.
 HANHART, M. & N.
 HARE, G.
 HARGROVES, R. A. & J., & Co.
 HARLAND, J. W.
 HARRISON, R., & SON.
 HART, SON, PEARD, & Co.
 HATHORN & Co.
 HAYES, CROSSLEY, & Co.
 HAYNES, T., & SONS.
 HEATH, VERNON.
 HEATON, J. A.
 HELY, A. A.
 HEMINGWAY & THOMAS.
 HENDERSON, A. L.

HENLEY & SON.
 HICKISSON, MRS. M. A. (late BOND).
 HILDITCH, G. & J. B.
 HILLIER, J.
 HITCHINS, R. W.
 HOBBS, HART, & Co.
 HODD, R., & SON.
 HOLLAND & HOLLAND.
 HOLLAND & SONS.
 HOLMES, W. M.
 HOLMES, H. & A.
 HOMFRAY & Co.
 HOOKER, J.
 HOPKINSON, J. & J.
 HOPTON & SONS.
 HOPTON, T. W.
 HORNE & THORNTWHAITE.
 HORSEY, J. G., & Co.
 HOUSE, H., & Co.
 HOWARD & SONS.
 HOWE SEWING MACHINE COMPANY,
 LIMITED.
 HOWELL, JAMES, & Co.
 HUNTER & ENGLISH.
 HYDE & Co.
 HYDE, ARCHER, & Co.

I.

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J.

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 JACOBY, J.
 JAMIESON, A.
 JAMIESON, W. & J.
 JEFFREY & Co.
 JEFFREYS, C.
 JENNER & KNEWSTUB.
 JENNINGS, GEORGE.
 JENNINGS, PAYNE.
 JENSON & NICHOLSON.
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 JOHNSON, MATTHEY, & Co.
 JOHNSTONE, JEANES, & Co.
 JONES, O., & Co.
 JONES, H. BENGE.
 JONES, T.
 JUDD & Co.

K.

KAY & RICHARDSON.
 KEEN, ROBINSON, BELLVILLE, & Co.
 KENT, G. B., & Co.
 KILNER BROTHERS.

KIMPTON, THOMAS.
KINCAID, J., C.E.
KING, SON, & WHITAKER.
KIPPS, J. J.
KIRBY, BEARD, & Co.
KIRBY, H. & T., & Co.
KULLBERG, VICTOR.

L.

LACHENAL & Co.
LADD, J. H., & Co.
LADIES' WORK SOCIETY.
LAMPREY, J. H.
LANCASTER, A.
LANDORN SIEMENS STEEL COMPANY, LIMITED.
LANG, J., & SONS.
LANGTHORNE CHEMICAL WORKS.
LAPWORTH BROTHERS.
LASCELLES, W. H.
LATCHFORD & WILLSON.
LAURIE & MARNER, LIMITED.
LAYERS, A. H.
LAWRENCE & Co.
LAWRENCE & PORTER.
LAWRENCE, T. J.
LECHEMTER, BARBE, & Co.
LEE BROTHERS.
LÉGE, A., & Co.
LE GRAND & SUTCLIFFE.
LE GROS, MAYNE, LEAVER, & Co.
LEIGHTON, J.
LEMALE, T., & Co.
LEMERRE, B., & Co.
LEONI, S. & Co.
LESLIE & Co., LIMITED.
LEUGHARS & SON.
LEWIN, D. J.
LEWIS, G. & E. S.
LEWIS, J.
LINCOLN, BENNETT, & Co.
LINOLEUM MANUFACTURING COMPANY, LIMITED.
LIVERPOOL DRY PLATE & PHOTOGRAPHIC PRINTING COMPANY.
LLOYD, ATTREE, & SMITH.
LLOYD, T., & SONS.
LOBE, JOHN.
LONDON AND GLASGOW ENGINEERING AND IRON SHIPBUILDING CO., LIMITED.
LONDON SOCIETY FOR PROMOTING CHRISTIANITY AMONG THE JEWS.
LONDON STEREOSCOPIC COMPANY, LIMITED.
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LUMLEY, HENRY, AND RUSSELL, J. SCOTT.

M.

MCALL, J., & Co.
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MCKENZIE, T., & SONS, LIMITED.
MCLEAN & Co.
MACNAB, JAMES.
MCNAUGHT & SMITH.
MACQUEEN & Co.
MALBY, W. F.
MARCOVITCH & Co.
MARSHALL, A., & Co.
MARSHALL & HOLLAND.
MARSHALL, T. J., & Co.
MARTIN, C., & Co.
MASON & Co.
MATHER, W.
MATTHEWS, J.
MAUDSLAY, SONS, & FIELD.
MAXWELL, H., & Co.
MAYER & MELTZER.
MEAD & Co.
MELLIER, C., & Co.
MENTER, E.
MENUEL, E.
MERRYWEATHER & SONS.
MEYER & MORTIMER.
MIDDLETON, T. J.
MILLER, J. & J., & Co.
MOIR, J., & SON.
MONINGTON & WESTON.
MONTANARI, B.
MORLEY, J. & R.
MORSON, T., & SON.
MORTON, J.
MUMFORD, P., & SON.
MUMFORD, PETER, JUNIOR.

N.

NAPIER, D., & SON.
NATHAN, D.
NEAL, J., & Co.
NEAL, J.
NEALE, M. T.
NEGRETTI & ZAMBRA.
NEIGHBOUR, G., & SONS.
NEWMAN, MRS. C.
NEWPORT ABERCORN COAL CO., LIMITED.
NEWSPAPER PUBLISHING COMPANY.
NEWTON & Co.
NEW WESTMINSTER BREWERY CO., LIMITED.
NICOLL, H. J.
NITRO PHOSPHATE AND ODAMS CHEMICAL MANURE CO., LIMITED.
NORRIS, S. E., & Co.

O.

OAKLEY, J., & SONS.
 OFFORD, J.
 OHLENDORFF & Co
 OPPENHEIM, W.
 ORTNER & HOULE.
 OSBORNE, BAUER, & CHESMAN.
 OSLER, F. & C.

P.

PALMER, S.
 PARIS, JAMES.
 PARRATT, G. F.
 PARSONS, FLETCHER, & Co.
 PARSONS, P. M.
 PATENT LITHOTYPE COMPANY,
 LIMITED.
 PATENT PLUMBAGO CRUCIBLE COM-
 PANY.
 PATENT PRINTING SURFACE COM-
 PANY.
 PATENT SILENTITIC CEMENT COM-
 PANY, LIMITED.
 PATENT SHOW TABLET Co.
 PATENT WATERPROOF PAPER AND
 CANVAS Co.
 PEARS, A. & F.
 PEEK, FREAN, & Co.
 PEREIRA, J., & SON.
 PERRY, ALEXANDER, & Co.
 PETERS, T., & SONS.
 PHILIP, G., & SON.
 PHOSPHOR BRONZE COMPANY, LI-
 MITED.
 PIESSE & LUBIN.
 FIGOU, WILKS, & LAURENCE.
 PILLISCHER, M.
 PITMAN & CUTHBERTSON.
 PLAMBECK & Co.
 PLYMOUTH FIRE CLAY COMPANY.
 POLLOCK, SYDNEY.
 PORTER, H. G., & Co.
 POWELL, J., & SONS.
 POWIS, C., & Co.
 PRATT, JAMES.
 PRICE, NAPOLEON, & Co.
 PRICE, G. F.
 PRICE'S PATENT CANDLE COMPANY,
 LIMITED.
 PUCKRIDGE, F., & NEPHEW.
 PUGH, BROS.
 PULSOMETER ENGINEERING Co.
 PURDEY, J., & SONS.
 PURE LITERATURE SOCIETY.
 PURSER, E., & Co.

R.

RADOLYFFE (DICK), & Co.
 RANSOME, A., & Co.
 REED & FOX.
 REID, A., & SONS.
 REID, JAMES.
 REILLY, E. M., & Co.
 REIN, F. C., & SON.
 REIN, F. C., MRS.
 RELIGIOUS TRACT SOCIETY.
 REYNOLDS, F. W., & Co.
 RICHARDS & Co. (*Marylebone*).
 RICHARDS & Co., LIMITED (*Fer-
 church St.*).
 RICHARDS, WILLIAM.
 RIDSDALE & Co.
 RINGO, MICHAEL DEL.
 RIMMEL, E.
 ROBINSON & ANDERSON.
 ROBINSON, V., & Co.
 ROGERS, G. A.
 ROLLS, SCHWEIZER, & Co.
 ROSE, L., & Co.
 ROSE, SIR W. A., & Co.
 ROSS & Co.
 ROSS, T., & Co.
 ROSSER & RUSSELL.
 ROTHENHEIM, S.
 ROTHSCHILD, LADY E. DE.
 ROWLAND, A., & SONS.
 BOWNEY, G., & Co.
 BOWNSON, DREW, & Co.
 ROY, E. A.
 ROYAL SCHOOL OF ART NEEDLE-
 WORK.
 RUNDALL, J. B.
 RUSS, C.
 RUSSELL, J., & Co.
 RUSSELL, J. SCOTT, AND LUMLEY,
 HENRY.

S.

SAGE, F.
 SAINT PANCAS IRON WORK COM-
 PANY.
 SALTER & WHITER.
 SANDERS, H. G., & SON.
 SANSON, R. B.
 SAUNDERS, T. H., & Co.
 SAVORY & MOORE.
 SAXBY & FARMER.
 SCHWEPPE & Co.
 SCIENTIFIC TOY AND GENERAL
 NOVELTY COMPANY.
 SCOTT, W.
 SCOTT'S SEWAGE COMPANY, LI-
 MITED.
 SEELBY, JACKSON, & HALLIDAY.
 SEERE, A.
 SEVIN, CHARLES.

SHAND, MASON, & Co.
 SHICK, F.
 SHOOLBRED, J. & Co.
 SIEBE & GORMAN.
 SIEMENS, BROTHERS.
 SILICATE PAINT Co.
 SILICATED CARBON FILTER COM-
 PANY.
 SIMMONS, S.
 SIMPSON, W. B., & SONS.
 SIMPSONS, PAYNE, & Co.
 SINCLAIR, D., & Co.
 SKIPPER, C., & EAST.
 SLATER, BUCKINGHAM, & Co.
 SNEATON, W., & SONS.
 SMEE, W. A. & S.
 SMITH, G. J.
 SMITH, J. M.
 SMITH (TURBERVILLE) & SON.
 SMITH'S VACUUM BRAKE Co.,
 LIMITED.
 SOANE, HARRY.
 SONNENSCHNIN, A.
 SOUTH KENSINGTON MUSEUM.
 SPIERS, BROS.
 SPOTTISWOODE & Co.
 SPEATTS' PATENT BISCUIT COM-
 PANY.
 SQUINTANI, C. G., & Co.
 STANBRIDGE, S., & Co.
 STANFORD, E.
 STANNAH, J.
 STAR BRUSH COMPANY, LIMITED.
 STEPHENS, H. C.
 STEPHENS, J.
 STEVENS & SONS.
 STEWART, CHARLES.
 STIFF, J., & SONS.
 STONE, J., & Co.
 STOHMINGER, J., & SONS.
 SUGG, W.
 SUN AUTO-PNEUMATIC LIGHTING
 AND HEATING COMPANY, LIMITED.
 SUNDAY SCHOOL UNION.
 SURREY MACHINIST Co.
 SWAINE & ADENEY.
 SWAINSON, BIRLEY, & Co.
 SWEARS & WELLS.
 SWIFT, J.
 SYMONS, H. C.

T.

TALLERMAN, D.
 TAPLING, T. & Co.
 TAYLOR BROTHERS.
 TAYLOR & Co.
 TAYLOR, W. G.
 TAYLOR, WALTER.
 TELEGRAPH CONSTRUCTION AND
 MAINTENANCE COMPANY, LI-
 MITED.

TERRY, STONEMAN, & Co.
 THOMAS, J. J., & Co.
 THOMLINSON & SALKELD.
 THOMPSON, CHARLES.
 THOMSON, W. S., & Co.
 THORLEY'S (J. W.), CATTLE FOOD
 COMPANY, LIMITED.
 THORNHILL, W., & Co.
 TISLEY & Co.
 TOLEMAN, J.
 TRELOAR & SONS.
 TRESS & Co.
 TROLLOPE, G., & SONS.
 TULL, GLANVILL, & Co.
 TURNER, C., & SON.
 TURPIN, M. F. C.
 TURTLE & PEARCE.
 TWEDDELL, R. H.
 TWELVETREES (HARPER), & SON.
 TYLER (HAYWARD), & Co.
 TYLER, J. H.
 TYLOR, J., & SON.
 TYPOGRAPHIC ETCHING COMPANY.

U.

ULLATHORNE & Co.
 UNITE, JOHN.
 UNWIN BROTHERS.

V.

VALLANCE, F., MISS.
 VAN DER WEYDE, H.
 VANNER, J., & SONS.
 VAN PRAAG, A., & Co.
 VAN VOLEN, G.
 VAUGHAN-JONES, EDWARD.
 VERITY BROTHERS.
 VICKERS, J. & J., & Co.
 VIRGOE, MIDDLETON, & Co.
 VIRTUE & COMPANY, LIMITED.
 VISE, SONS, & Co.

W.

WALKER, W., & SONS.
 WALLIS, J.
 WARD & HUGHES.
 WARD, M., & Co.
 WARD, J.
 WARNERKE, L.
 WATERLOW & SONS, LIMITED.
 WATKINS & McCOMBIE.
 WATKINS, H.
 WATSON, BONTOR, & Co.
 WATSON, J., & SON.
 WATT, W.
 WATTS, J. WREN.
 WAUGH & SON.
 WAVISH, J.

WAYNES MERTHYR Co., LIMITED.
 WEBSTER, R.
 WELCH, MARGETSON, & Co.
 WELCH & SONS.
 WELCH, W. J.
 WENHAM LAKE ICE COMPANY.
 WESTERN & Co.
 WESTLAKE, N. H. J. (*Hendon*).
 WHEELER, E.
 WHINCUP, J.
 WHITAKER, J.
 WHITE, W., & SON.
 WHITEHEAD, R. R., & BROTHERS,
 LIMITED.
 WHITEHEAD & Co., LIMITED.
 WHITING, M.
 WHYMPER, E.
 WIGAN, H., & Co.
 WIGZELL, HALSEY, & Co.
 WILDEY, W., & Co.
 WILKINSON, HEYWOOD, & CLARK.
 WILLIAMS, G. A., & SON.
 WILLIS, W. H., & Co.
 WILLS, J.
 WILSON (NEWTON) & Co.

WILSON & Co.
 WINDOVER, CHAS. S.
 WOLFF, E., & SON.
 WOLSTENCROFT, T., & Co.
 WOODWARD, J., & SONS.
 WOOLLANS, WILLIAM, & Co.
 WOOLLEY & Co.
 WORNUM, R., & SONS.
 WORSSAM, S., & Co.
 WOULDHAM CEMENT Co.
 WRIGHT & HOLDSWORTH.
 WYBURN & Co.
 WYNDHAM & Co.

Y.

YARDLEY & Co.
 YORK, F.
 YORKSHIRE VARNISH COMPANY.

Z.

ZINDARS, C. E.
 ZUCCATO & WOLFF.

DIGEST OF THE FRENCH CUSTOMS TARIFF.

REMARKS.

The duties quoted in the following tables under the heading Treaty Tariff are those settled by Treaties of Commerce between France on the one hand, and Great Britain, Belgium, Italy, Switzerland, Sweden, and Norway, the Netherlands, Portugal, Austria, the Ottoman Empire, the German Empire, and Russia on the other. They apply only to the native or manufactured productions of the European Possessions of the contracting countries, and to Indian cotton, Australian and New Zealand wool, and jute; and to products of Portuguese, Russian, and Turkish foreign possessions.

In *principle*, the Treaty Tariff is only applicable to goods imported direct from a contracting country, but this rule is only enforced in respect of: 1, beet-root sugars and those articles which are subject to a modification of duty by the General Tariff, when they are of the raw produce of the European country from which they are imported. (*A list of these articles is in § 123 of Observations Préliminaires.*) 2, produce of the foreign (not European) possessions of Portugal, Russia, and Turkey unless imported by way of Portugal, Russia in Europe, or Turkey in Europe, respectively.

Goods admitted under the Treaties remain subject to all the internal taxes that similar goods of French origin pay.

Goods not mentioned in the Treaty Tariff, or excluded by the above rules from its operation, pay the duties quoted under the heading General Tariff, which are of four classes:—

- a, the duties on European products imported direct from the producing country;
- b, on the same products not so imported;
- c, on produce of places out of Europe imported into France direct from any place out of Europe;
- d, on extra-European produce imported from European ports.

All these duties are to be increased by adding 4 per cent.

Goods marked thus * in the tables must be entered at certain offices established for the entry of goods which are taxed higher than 20 francs per 100 kilogrammes. [*A list of these offices is in § 35 of Observations Préliminaires.*]

Goods marked thus **, at seaports where bonded warehouses exist, or at the inland offices of § 35. [*The list of seaports is in § 149 of Observations Préliminaires.*]

Other goods marked thus † are the subject of special restrictions, detailed in the notes, referred to in the tables.

REMARKS ON THE TRANSLATION OF THE FRENCH CUSTOMS TARIFF.

THE plan followed has been to produce a perfectly literal translation of the French tables of customs duties, and to remodel the form in which these are arranged, for the sake of avoiding unnecessary repetition. The duties under the four headings in the French tables of European goods of direct and of indirect import, of extra-European goods of direct import or at least having a French port for their first European delivery, and of extra-European goods imported into France from foreign European countries, have been arranged in one column. The three first classes generally pay one and the same duty, and the surcharge on the fourth class is nearly always 3 francs per 100 kilogrammes in weight. Where the duties vary from this rule special entries have been made.

The Treaty duties are arranged in a column by the side of the duties under the General Tariff in all cases in which similarity of classification leaves this possible. When the goods under the two tariffs are classified on different principles, each tariff has been printed separately, one after the other.

The French tables refer a large number of goods, not specially provided for in the Treaties of Commerce, to "the conditions of the General Tariff." These last, being complicated by the surcharge, &c., and frequently subject to a classification different from that under the Treaty Tariff, cannot conveniently be calculated and inserted in the tables so as to make the Treaty Tariff complete in itself. They are therefore indicated in the translation by a line — across the Treaty column, and the importer can see by the General Tariff column parallel to this what he has to pay in all cases in which the classification enables him to do so.

The notes have been carefully condensed to the shortest possible compass consistent with clearness.

In considering the necessity of reproducing the General Tariff it must be remembered that the Treaties of Commerce only apply to the produce of the *European* possessions of the contracting States.

It is hoped that the translation as it now stands is as clear and concise as it can be made consistently with the (presumed) necessity of reference to page and paragraph, *identically worded*, of the French edition.

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Note.	LIVE ANIMALS (pp. 6, 7).	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilo-grammes.		a. b. c. for d. add 3 fra. per 100 kilos.
2, 3	Horses: adult - - - - colts or fillies - - - -	each	—	30 00 18 00
	Mules - - - -	"	5 00	18 00
	Asses - - - -	"	—	exempt.
4	Oxen - - - -	"	3 60	3 60
	Cows - - - -	"	—	1 20
	Bulls - - - -	"	—	3 60
5	Young Beasts , from 6 or 9 to 18 or 24 months old.	"	—	1 20
6	Calves - - - -	"	—	0 30
7	Sheep - - - -	"	—	0 30
	Lambs (weigh less than 8 kilogrammes)	"	—	0 12
	Goats and Kids - - - -	"	—	exempt.
8	Pigs - - - -	"	0 80	0 30
	Sucking Pigs (weigh less than 15 kilogrammes).	"	—	0 12
	Dogs ; 9, Game ; Turtles ; 10, Bees (hives included); Leeches ; and Animals not mentioned .	"	exempt	exempt.
	PRODUCE OF ANIMALS (pp. 8, 9).			
	Meat:			
9	fresh, butcher's meat - - -	gross	exempt	0 60
	" game - - - -	"	exempt	exempt.
	" turtle - - - -	"	—	exempt.
11	salt, pork (including bacon) and other - - - -	{ net	0 60 and 4 00	0 60 and 4 00 free from the added 4 %.

¹ Rare animals, and curious or highly trained animals, brought into the country for exhibition are free.

² Horses and mules crossing the frontier in harness, or brought by circus riders, &c., are admitted free, under a guarantee of re-export.

³ Colts and fillies are those which have not changed their milk teeth.

⁴ Cattle are distinguished by a narrow jaw, and broad milk teeth unworn. Their horns are small, straight, dull, and yielding to the touch, &c. Young beasts have broader jaws and milk teeth narrow at the points and roots, and worn, these signs appear at 6 to 9 months of age. (4) are adults, known by the loss of the two central milk teeth, &c., say from 18 to 24 months of age. Buffaloes are classed with oxen.

⁵ The importation of game is prohibited in the close seasons, except of Scotch grouse and some Russian birds.

⁶ Hives containing the comb with the bees, alive or smothered, are free, but new or old empty hives are classed for taxation with the material they consist of.

⁷ This tax applies to all meats that are salted, however slightly, also to meat pies, and solid soup. Meats preserved by other methods, absolutely without salt, are exempt.

Note.	PRODUCE OF ANIMALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.			
		100 kilo-grammes.		
12	Hides:			
	raw, green or dry, large or small -	gross	exempt	a. c. exempt.
	„ indirect importation -	„	3 00	b. d. 3 00
13	Peltries , raw, dressed, or in sewn pieces.*	„	exempt	a. c. exempt. b. d. 3 00
14	Wool:			
15	in bales, Australian -	„	exempt	—
	„ other kinds, direct importation.	„	exempt	a. c. exempt.
	„ „ indirect „ -	„	3 60	b. d. 3 60 a. b. c. For d. add 3 frs per 100 kilos.
16	combed † - - - -	net	25 00	84 00
17	dyed † - - - -	„	25 00	120 00
18	waste of, long flocks - -	—	—	same duties as wool
	„ short flocks - -	gross	—	exempt.
	(used only for stuffing, and for velveting wall paper, &c.)			
19	Hair (crin, horse-hair, &c.) raw or dressed.	„	exempt	a. c. exempt. b. d. 3 60

^{12 13} By *Hides* are meant tanner's or leather dresser's hides. By *peltries*, all furrier's skins. Hides prepared for furrier's goods are classed as *peltries*. Skins of ostriches and birds of paradise, with the feathers, are classed as *feathers*. Pieces of skins, useless for furrier's work, are classed with *raw hair* (20). Skins of hares, rabbits, and beavers, *depilated*, are classed with *parings for glue*. Seal and dog-fish skins are *fishing produce*, unless prepared for the furrier, when they become *peltries*. The amount of salt passed free on salted hides is restricted to that necessary for their preservation. Parts of hides are treated as whole hides, but small strips and waste are classed with *parings for glue*. Unmanufactured hides depilated with lime are classed as raw [cf. *Note 576*].

¹⁵ Vigonia and lama are classed as *wools*, New Zealand is classed with Australian, and both are exempt from the penalty on indirect importation, but this exemption does not apply to skins with the wool on.

^{16 17} Wools combed or carded and dyed wools are subject to special restrictions, and can only be entered at the offices—1, of sea ports and inland towns where bonded warehouses exist (*see* § 149, O.P.); 2, at the principal offices of the first line of frontier; or, 3, at inland places mentioned in the note (*see the Note 16*). Wool dyed in the fleece is subject to the same regulations as carded wool.

¹⁸ *Waste of wool*, including waste of alpaca, lama, and vigonia, is referred to the General Tariff; but if it is neither carded nor dyed it is in all cases treated as produce of the country from which it arrives, and is exempt from all duties. *Short waste*, called in the French "bourre lanée" and "bourre tontine," described as derived from beating wool, and combing stuffs, and generally used by saddlers or for the velveting of wall paper, is always exempt. The *long flock*, called in the French "bourre entière," is described as the flock derived from carding and spinning wool; with it are classed the so-called "renaissance" wool, i.e., ravellings of woven or knitted goods, and all other waste not included in the previous item. If this has not been combed or carded it is exempt, if it has, it pays the same duties as carded wools, or if dyed, as dyed wools, under the General Tariff.

¹⁹ The dressing and curling of hair are not regarded as a process of manufacture affecting the nationality of the import; but hair dressed elsewhere than in its native country is taxed as indirect importation.

Note.	PRODUCE OF ANIMALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.			a. b. c. for d. add 8 fra. per 100 kilos.
20	Hair: [<i>poils</i> , down, fur, bristles, &c.] raw - - - - - combed goat's hair (Treaty only). " other kinds - - - in hanks of assorted lengths - -	100 kilo-grammes. gross " " "	exempt 10 00 — —	exempt. — 12 00 12 00
21	Feathers: ornamental, not dressed - - " dressed - - -	gross net gross	exempt — exempt	exempt. exempt. exempt.
22	quills (for writing, &c.) prepared or not.	gross	exempt	exempt.
23	bed, of all kinds* (including down) (General Tariff)	" net	3 50 —	— 50 00
24	Silk* (pp. 10, 11): in cocoons - - - -	gross	exempt	exempt.
25	écru, raw or thrown, and dyed of every description.	net	exempt	exempt.
26	floss, uncombed, écru or dyed -	gross	exempt	exempt.
27	" combed of every description.	"	10 00	10 00
28	" spun (floredda) single or twisted, écru, bleached, azured or dyed:— by measurement of a single thread (i. e., the length multiplied by the number of threads). 80,500 metres or less to the kilogramme. more - - -	net " "	75 00 120 00	75 00 120 00

* This class, "poils," includes all hair, bristles, down, &c. not elsewhere mentioned, which is used for spinning, hatmaking, brushes, padding, &c., such as is found on the ostrich, badger, goat, beaver, chamois, dog, rabbit, hare, otter, seal, pig, musk rat, wild boar, and cow, and other tanner's hides. It includes the down of the cashmere and angora goat.

The Tariff distinguishes hair in its natural state (brut) from that combed or in hanks of assorted lengths. Among the former are classed, hair dyed in the mass, hair cut from skins dyed with the hair on them (chiquette), combings, and waste of spinning; waste of clippings of pig's bristles, from the brushmakers; fragments of skin useless as furs, and only marketable for the value of the hair on them, hair of cows and other tanner's hides sent compressed into slabs; blown hairs; hairs in assorted lengths not arranged in hanks. Blown hairs must be distinguished from combed. Combing lays the hairs parallel, and is applied to those used for spinning, as the cows, goats, and camels, but not to rabbits, hares, beavers, and others used for hatmaking. Blowing, on the contrary, is only applied to this last kind, and only separates the light hairs from those heavy ones which are not fit for felting. Spun hair is classed with yarns. Waste of hair is treated as the produce of the country from which it is imported.

* Includes the large feathers of ducks, turkeys, partridges, pigeons, &c.; also the skins of those birds with the feathers on, and entire humming birds, &c. Skins of swans and grebes, and breasts of ducks and toucans, are classed as *poitries*.

* Includes—1, the tubes of feathers for brush handles, &c.; 2, whole pens, cut and split, and in assorted lengths; 3, ribs of pens.

* Spoiled cocoons are classed as floss silk. * Combed includes *card* (carded and gummed).

Note.	PRODUCE OF ANIMALS.	Unit of Taxation.	Treaty (net).	General (4 % added)
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilogrammes.		a. b. c. for d. add 3 frs. per 100 kilos.
29	Silk—cont. waste of silk floss, spun to a } thread:— of 30,000 metres or less to } the kilogramme. of more - - -	— { net {	{ — { — {	— 25 00 same duties as spun floss.
	Hair [<i>cheveux</i> , human, &c.] - -	gross	—	exempt.
30	Byssus of <i>pinna marina</i> * - -	net	—	exempt.
31	Poil de Messine (a silk used only for fishing lines).	gross	—	exempt.
32	Animal Fat: excepting fish oils, direct - - European produce, indirect - - extra-European produce, indirect - -	" " "	exempt — 2 40	a. c. exempt. b. 2 00 c. d. 3 00
33	Waste , of fish oil and alkalis, from the process of manufacturing chamois leather.	"	exempt	the same as (32).
34	Beeswax: raw, and waste thereof (including vegetable wax), brown, yellow, or white, direct import. [column c. if not imported direct from the producing country.] indirect	" " "	1 00 1 00	a. c. 1 00 b. c. 3 00
35	residue [of wax or of waste of wax] Eggs: (pp. 12, 13.) of game birds - - - of poultry, of silk worms - - -	" " "	— — exempt	exempt. exempt. exempt.

* A viscid silky fibre produced by the wing-shell mollusc (*Pinna nobilis*), common in the Mediterranean. Called also "poil de Nacre."

† Obtained by drowning the silkworm in vinegar when he is just about to spin; used exclusively for fishing tackle. Called also "Crin de Florence ou Pître."

‡ Liquid fats are subject to the internal tax on vegetable oils (see Note 123). Spermaceti and fish oils are fishing produce. The solid constituents of animal fats, stearine and margarine, and the liquid, oleine, are classed as animal fats, but their respective acids are classed as chemical productions. The waxy substance produced by the tallow tree (*croton sebifera*), lubricating grease composed entirely of animal fats or only mixed with duty free substances, and the greases obtained from water used in wool cleaning or fulling cloth, or from rags that have been used for cleaning machinery, are classed with animal fats. Other lubricating preparations are classed as grease for machinery. European tallow melted in foreign countries are classed as indirect importation. Salt bacon, pomades, and medicated ointments are especially excluded from this class.

§ The mixtures of wax and pitch (cobble's wax) and of yellow wax and iron oxyde (used for gilding) are also in this class.

|| Yolks, liquid, or dried and salted, as used to soften the skins for glove making, are classed with eggs.

Note.	PRODUCE OF ANIMALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European products imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilogrammes.		a. b. c. for d. add 3 frs. per 100 kilos.
37	Milk , and cream - - -	gross	exempt	exempt.
38	Cheeses :			
	white, soft crusted - - -	"	3 00	7 20
	others - - -	"	4 00	18 00
39	Butter :			
	fresh or melted - - -	"	exempt	exempt.
	salted - - -	"	2 50	2 50
	Honey - - -	"	exempt	exempt.
40	Rennet - - -	"	—	exempt.
41	Manures :			
42	guano - - -	"	—	{ exempt. d. 1 80
43	fish - - -	"	exempt	—
	other kinds - - -	"	exempt	exempt.
44	Farings , tanner's waste and other materials for glue manufacture.	"	exempt	exempt.
	Sinews of oxen and other animals -	"	exempt	exempt.
	Tripe , fresh or salted - - -	"	exempt	exempt.
45	Bladders , except of deer and of fish -	"	exempt	exempt.

³⁷ Concentrated milk is classed with *hard cheeses*; milk sweetened and boiled, with *confectionery*; mixed with flower and slightly sweetened, with *gingerbread*; salted, with *salt butter*; mixed with coffee, sweetened or not, with *ground coffee*; mixed with cocoa and sweetened it is classed with *chocolate*, or unsweetened, with *ground cocoa*.

³⁸ Artificial butters are classed as *butter*.

⁴⁰ Stomachs of ruminant animals, dried and pulverized for use in the preparation of pepsine, are classed as *rennet*.

⁴² The crystals found among the guano are to be taxed as *crude ammoniac salts*.

⁴³ The quantity of salt in fish manure is restricted. Among other manures are, 1, dung; 2, dried from latrines; 3, from poultry yards; 4, leaf mould and mud from cleaning out ponds; 5, from the mouths of rivers, and the fertilising sand called "tanguet"; 6, ashes of turf and soot; 7, dried scum from sugar refineries (with care that it contains no crystallisable sugar); 8, the superphosphates of lime; 9, residue of gas purifying, mixed with not more than 25 % of sulphate or other salts of ammonia, or the *whole compound* is taxed as *salts of ammonia*; 10, artificial guano; 11, kainite from the salt mines at Stassfurt; 12, mixtures of guano and other substances in which the *guano is completely absorbed*.

⁴⁵ Stomachs of ruminants not mentioned in preceding note and dried bowels are classed with bladders, even when they have been tanned for the manufacture of tobacco pouches.

Note.	46, PRODUCE OF FISHING (pp. 14, 15).	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilogrammes.		a. b. c. for d. add 3 fra. per 100 kilos.
47 } 48 }	Fish :			
	freshwater, fresh - - -	gross	exempt	exempt.
	" prepared (not 51) -	"	10 00	48 00
50	saltwater, fresh - - -	"	{ Conditions of General Tariff.	5 00
	" [by the Treaties] { preserved in ice	net	10 00	{ (a) —
	not in ice -	gross	10 00	
	" dried, salted, or smoked -	net	—	48 00
	except stock fish " " -	"	—	12 00
	codfish, dried, salted, or smoked -	—	{ Conditions of General Tariff.	—
	other fish " " -	gross	10 00	—
51	" pickled or preserved in oil -	"	10 00	—
	" " " " -	net	—	30 00
52	Roe of cod and mackerel [French fishery exempt].	gross	—	0 60
53	Lobsters , alive or fresh boiled [all fisheries].	"	exempt	exempt.
54	Oysters :			
	fresh [French fishery exempt] -	per mille	1 50	1 80
	pickled - - - - -	gross	6 00	6 00
	Mussels and other live shellfish -	"	exempt	exempt.
55	Fish Oil :			
	French fishery - - -	"	—	0 18
	other fishery - - -	"	6 00	9 00

* Fish of all kinds of French fisheries are duty free. Salt for preserving them is, under certain conditions, exempt from all taxation; premiums are given for produce of French cod or whale fisheries. Produce of French fisheries, fresh or salted, &c., may only be imported in French vessels (excepting herrings from Newfoundland).

* Caviar and botargo (mullet spawn) are classed with *sea fish, salted, or pickled*. Fish preserved by any method are classed as *pickled*. *Stock fish* must not contain more than 12 % of salt. Fish simply cleaned and sprinkled inside with salt pass as *fresh*.

* Salmon, salmon-trout, mullet, shad, smelt, lamprey, cray-fish, and frogs are classed as *freshwater fish*. The import of freshwater fish is prohibited during the seasons when they are preserved in France, excepting of fish from reservoirs or ponds accompanied by a certificate of origin; under these conditions a salmon must not measure more than 25 centimetres from the eye to the root of the tail. The close seasons are from 20th October to 31st January for salmon, trout, ombrechevalier, and lavaret; from 15th April to 15th June for other fish and cray fish.

* Fishing produce of the contracting countries only comes within the Treaty Tariff when it is taken on their own coasts, or in distant seas. Produce of English fisheries must not be imported in English fishing boats. Fresh cod is not distinguished from other fresh fish.

* This class includes anchovy paste, and olives in which the stones have been removed and replaced by pieces of anchovy; also fish and lobsters preserved by the Appert or any other mode. (For fish in vinegar see Note 47d.)

* The oyster fishery in the common seas is closed from 1st May to 31st August. Oysters cooked in their own liquor, or preserved by the Appert method, are classed as pickled. Produce of English fisheries must not be imported in English fishing boats [cf. Note 50].

(a) The importer may select the conditions of the General Tariff when they are the most favourable to him.

ANIMAL SUBSTANCES.



Note.	PRODUCE OF FISHING.	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilo-grammes.		a. b. c. for d. add 3 fra. per 100 kilos.
56	Spermaceti*:			
	French fishery - - -	gross	—	24 00
	other, crude - - -	"	2 00	5 00
	pressed - - -	net	—	20 00
	refined - - -	"	—	50 00
57	Whalebone, uncut [all fisheries] -	gross	exempt	3 00
58	Fish Skins:			
	dog fish, shagreen, raw, green, or dry [all fisheries].	"	exempt	3 00
59	sealskins, raw [all fisheries] -	"	exempt	exempt.
60	Coral, rough (uncut) [all fisheries] -	"	exempt	exempt.
61	Pearls, fine (natural) [all fisheries] -	"	—	exempt.
62	Fish sound, raw or simply dried -	"	—	exempt.
63	RAW MATERIALS OF MEDICINES AND PERFUMERY (pp. 16, 17).			
64	Castoreum (extract from the beaver) and hyraceum (dried urine of the Cape badger).	gross	2 00	2 00
65	} Civet, musk, ambergris - -	"	2 00	2 00
67				
68	Sponges* - - -	net	50 00	a. b. d. 55 00 c. 50 00
69	Other raw materials of M. and P. -	gross	—	exempt.

⁵⁵ When introduced into "*communes*" of which the population exceeds 4,000, fish oils are subject to an additional tax which varies from 5 to 12 francs, according to the number of the population [cf. *Note 153*]. Lubricating grease, composed of fish oil, rosin, tallow, and soda, is classed as *fish oil*.

⁵⁶ Crude contains about one-third pure spermaceti and two-thirds fat or oil. *Pressed* is freed from the grease, if pressed in heat it is nearly as white as refined, but is only taxed as *pressed*.

⁵⁷ The class is only for entire plates. *Whalebone cut and prepared* is specially taxed (587).

⁵⁸ Skins of sharks, dog-fish, and other squali are used for files or rasps, and when worn smooth by this process are useful for covers of purses, &c.; in this condition they are known as *galachate*, and classed with *prepared skins*.

⁵⁹ Skins of sea-horse or walrus are classed with *seal skins*.

⁶⁰ Compare 576.

⁶¹ Distinguished from *isenglass* (462) by being insoluble in water.

⁶² Raw materials pulverised are classed as compounded medicines (cf. *Note 455*).

⁶³ Tails of musk rats and scented pastilles (not for burning) are classed as *musk*. Pastilles for burning are *perfumery*.

⁶⁴ For (mineral) *amber* see 276.

⁶⁵ Sponges prepared for surgical use, and sponges that have been roasted and pulverised for pharmacy are classed with (68). Fragments of sponge are classed with *parings for glue* (44).

⁶⁶ This class includes (by an ancient classification) cowrie shells, bezoar (a morbid formation in the stomachs of animals), hartshorn, and the branching solid horns of similar species, dried wood-lice, marrow and bladders of stags, cuttle bone, feet of the elk, hartshorn filings, ivory filings, dried goats' blood, vipers' eyes, &c.

Nota.	HARD SUBSTANCES FOR CARVING.	Unit of Taxation.	Treaty (net).	General (4 % added).			
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European products imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilogrammes.		a	b.	c.	d.
70	Elephants' teeth and tusks** -	gross	—	exempt	3	60	
71	Turtle shell:**						
	carapaces (upper bucklers), onglons, and caouanes.	"	—	exempt	6	00	
	waste parings - - -	"	—	exempt	3	00	
72	Nacreous shells:						
	mother-of-pearl, in rough shells -	"	—	exempt	4	80	
	" cut or separated -	"	—	exempt	9	60	
	haliotis, ear shell - - -	"	—	exempt	3	00	
73	Bones and hoofs of cattle, raw or calcined.	"	—	exempt	3	00	
					b.		
					2	00	
74	Wolves' teeth - - -	"	exempt	the same			
					as (73).		
75	Horns of cattle:						
	raw - - -	"	exempt	the same.			
					a.	b.	c.
					for d. add 3 frs.		
					per 100 kilos.		
	prepared - - -	"	3 00	3	00		
	shavings - - -	"	3 00	3	00		

⁷⁰ Include horns (not of cattle) and tusks of other animals, narwhal, hippopotamus, wild boar, rhinoceros, and fossil ivory, &c.

⁷¹ Includes land tortoise shells, unless they are broken in small pieces, when they are classed in 73. For artificial tortoise shell see 417 and 568.

⁷² Besides the mother-of-pearl producing shells, the principal shells in this class are: 1, the large snail-shaped shells, called in commerce *burgo* (*Nautilus pompilius*); 2, the univalve shells of the Genera *Cassis* and *Strombe* or *Lambis*, which are made into cameos, &c.; 3, the "benitiers" and "porcelaines." Nacreous shells of all kinds imported in small quantities for collections are exempt, broken shells unfit for use are classed as *lime*. Shells polished or shaped in any way are classed with *tabletterie*.

⁷³ Pulverised bones are in this class.

⁷⁴ Includes all teeth unfit for use in *tabletterie* manufacture.

⁷⁵ *Raw horns* are those which have not been more cut than is necessary to separate the hollow from the solid parts; *prepared*, include flat pieces of horn for making combs, &c., also the material prepared of mixed hoofs and horns for button making and *tabletterie*.

VEGETABLE SUBSTANCES.

Note.	FARINACEOUS FOOD (pp. 18, 19).	Unit of Taxation.	Treaty (net).	General (4 % added).	
76	Cereals : wheat, spelt and méteil (wheat and rye), in the grain - wheat meal - - - rye, maize, barley, buckwheat, oats, grain, or meal -	100 kilogrammes. gross " "	— — —	<i>a. b. c.</i> for d. add 8 fra. per 100 kilos. 0 60 1 20 exempt.	
77	Bread and ships' biscuit - -	"	—	1 20	
78	Potatoes - - -	"	exempt	exempt.	
79	Dry and dried vegetables and meals thereof - - - Chestnuts , horse chestnuts, and meals thereof - - -	" "	exempt exempt	exempt. exempt.	
80	Groats , cuttings, pearled or cleaned grain - - -	"	—	1 20	
81	Grits (coarse meal) - - -	"	—	1 20	
82,	{ Canary seed , millet, grain, and	"	—	exempt.	
83					
84	Rice : grain, produce of a contracting country - - - " other (<i>a</i>) see the note - in the husk, produce of the importing country - - - " other (<i>a</i>) see the note -	" " " " "	0 50 0 60(<i>a</i>) 0 25 0 30(<i>a</i>) 3 00	} <i>a. b. c.</i> 3 60 0 60 0 30 2 10 6 00 8 40	
85	Semolino (Italian) paste - -	"	3 00	6 00 8 40	
86	Feculas - - -	"	1 20	1 20	
87	Sago : Salep - - -	"	—	1 20	

⁷⁶ Liebig's farinaceous food is classed as pure *wheaten meal*. Malt and brewers' grains as *barley*. Broken grains of maize as *groats*. Wheat of all nations is admitted to temporary import free (cf. 198 O.P.) at all offices, but the re-export of the flours is restricted.

⁷⁷ Stores of French ships and passengers' personal provisions are exempt. Unleavened bread is taxed as *bread*. All biscuits of pure flour are admitted as *ships' biscuit*. Biscuits containing various ingredients, such as ginger, aniseed, &c., are classed as *gingerbread*. Sweet biscuits are classed as *confectionery*, excepting macaroons and the like, which are classed as *bon-bons*.

⁷⁸ Batatas, or sweet potatoes, are classed as *potatoes*.

⁷⁹ *Dry c.* are all kinds of beans, lentils, peas, &c. and fresh vegetables (cf. Note 221) dried. Du Barry's *Revalenta* is in this class, also the dried fruit of *hibiscus esculentus*, and of *voandzeia subterranea*, and pimento, dried or powdered.

⁸⁰ Pearl barley is the chief object of this class, it includes *spelt*, roasted, and prepared for soups.

⁸¹ Is the raw material for 82.

⁸² (*a*) Add 4 % to the quotations, and then 1.80 per 100 kilos. gross.

Rice is the husk includes all rice that obviously requires decorticating before it can be consumed, in the ear or not. *Rice in the grain* includes hulled rice. Broken rice pays the same taxes as whole. Waste or damaged is treated as the produce of the country where it became waste, but must not be better than certain qualities that have been settled by the consultative committee of arts and manufactures. Ground rice is classed with *rice in grain*, also cakes made of offal of rice, or with waste from the manufacture of starch. These cakes are treated as produce of the country where they are made, on condition that they are obviously intended for cattle food. Offal or bran of rice only good for cattle food is classed with other *brans*. See *Kodder* (Note 222). Rice for decorticating or cleaning is admitted to temporary importation (see § 198, O.P.).

⁸³ *Italian pastes*, such as vermicelli, macaroni, and similar goods, are admitted at the same duty when seasoned with meat or jelly and salted.

⁸⁴ *Fecula, native*, are potato starch and others of European origin; *exotic*, the meals and starches raw or roasted, from beyond Europe, especially arrowroot; the feculas of *dictame* and cassava; cippa *tapioca*, &c.

⁸⁷ The duty is that on Indian sago; the sago manufactured in Europe from potato starch is classed with *Italian pastes* (85).

Note.	88, FRUIT AND SEEDS (pp. 20, 21).	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilo-grammes.		a. b. c. for d. add 3 frs. per 100 kilos.
89	Fresh Fruit: Lemons, oranges, and their varieties - - -	gross	2 00	—
	" " " " - - -	net	—	12 00
90	carob beans - - -	gross	0 30	0 30
91	cocoa-nuts - - -	"	—	exempt.
92, 93	other fresh fruits - - -	"	—	exempt.
94	Dry Fruits: Pistachio nuts - - -	"	8 00	—
	" " " " - - -	net	—	19 20
	grapes and figs - - -	gross	0 30	0 30
90	carob beans - - -	"	—	0 30
95	other dry fruits - - -	"	8 00	—
	" " " " - - -	net	—	19 20
96	Preserved fruits: gherkins and cucumbers - - -	gross	8 00	—
	" " " " - - -	net	—	20 40

⁸⁸ Fruit and seeds. Other sorts will be found among *farinaceous food, vegetables, colonial produce medicinal kinds, and dyes*.

⁸⁹ Lemons, oranges, and their varieties. These are the sweet oranges, the Seville orange, lemon, citron, and bergamot or lime. Small oranges fallen from the tree or gathered soon after the fall of the blossom, called *orangerettes*, are classed with *hard seeds for carving*. An essential oil extracted from them is called *huile de petit grain*, but they are generally used for making *pois à castrer*. Citrons sliced and small lemons called *chénades*, which are preserved in salt water, are not taxed for the weight of the liquid, but they must be distinguished from *fruits in salt* (96).

⁹⁰ Carob beans pulverised are classed as *dried*.

⁹¹ Applies only to eatable cocoa-nuts. Spoiled nuts and nuts only useful for carving are classed as *cocoa-nut shells*. The rancid pulps and fruit broken and dried (*coprah*) are classed with *oleaginous fruits*.

⁹² *Exotic fresh fruits not mentioned*, are those which will keep fresh during importation; such as pineapples, bananas, &c. Branches, leaves, or roots attached to pineapples are not weighed for taxation.

⁹³ *Fresh European fruits not mentioned* include almonds in their hairy membrane, walnuts in the green husk, and hazel nuts, &c. in the husk. Without this covering the fruits are classed with *oleaginous fruit*. For crushed apples and pears "*pomage*," see *beverages*. For chestnuts, see *farinaceous food*. For fresh olives, see *oleaginous fruit*.

⁹⁴ Pistachio nuts, the same with or without their shells.

⁹⁵ Dried fruits include cherries, dates, jujube fruit, pears, apples, prunes, &c. and, in the General Tariff, dried figs. Figs roasted and ground (*fig coffee*) are classed with *ground chicory* (cf. Note 467). Apples and pears useless as table fruit are classed as *pomage*. Must of apples and pears as *cider*. The fleshy pericarp of the gourd, separated and dried, as *dry fruit*. Dates unfit for food as *cactus fruit*.

⁹⁶ Fruits preserved without sugar or honey include the Indian preserves of green fruits known as *achars*; bilberries, cranberries, and pimentum in vinegar; lemons, citrons, &c. in salt, and generally all fruits preserved in vinegar, or salt or in brine, oil, or mustard, &c. for table use, and not specially mentioned. Olives preserved in oil, in which the stones have been taken out and a piece of anchovy substituted, are taxed as *seafood, pickled, or preserved in oil*. Cassia, myrobolans, and tamarinds preserved are taxed as *vinegar or alcohol* besides the customs duty, cf. Notes 474 and 476. Fruits imported in salt water are classed as *fresh*. The water is not weighed.

Note.	FRUITS AND SEEDS (pp. 20, 21).	Unit of Taxation.	Treaty (net).	General (4% added).
	Preserved fruits—cont.	100 kilogrammes.		<i>a. b. c.</i> for d. add 3 frs. per 100 kilos.
	olives and picholines* - - -	gross	8 00	—
	" " - - -	net	—	43 20
	capers* - - -	gross	8 00	—
	" " - - -	net	—	72 00
	others, in brandy* - - -	"	—	117 60
	others, in sugar or honey - - -	—	—	same as 107.
97	without sugar or honey - - -	gross	8 00	—
	" " - - -	net	—	12 00
	Distillers' fruit:			<i>a. c.</i>
	green anise - - -	gross	2 00	2 00
	(c) indirect import - - -	—	—	<i>b. c.</i> 4 00
	other kinds - - -	gross	—	<i>a. b. c.</i> exempt.
99	Oleaginous fruits, including	}	exempt	{ <i>a. c.</i> exempt. <i>b. 2 00</i>
	dried almonds - - -			
100	Oleaginous seeds:			
	including mustard seed:			<i>a. c.</i>
	direct import - - -	"	exempt	exempt.
	European produce:			<i>b.</i>
	indirect import - - -	"	—	2 00
	extra European:			<i>c.</i>
	indirect import - - -	"	3 00	exempt.
101	Seed grain - - -	"	exempt	exempt.

* Distiller's fruit includes green anise (*pimpinella anisum*), cactus fruit, dates unfit for food, juniper berries (these last preserved in sugar are classed with confectionery), myrtle berries (*vacocinium myrtillus*), berries of exotic species of vaccinium are classed as *dessert fruit*.

Oleaginous Fruit.—Almonds, walnuts, and nuts are not classed as *oleaginous fruit* until they are stripped of their exterior coverings [see Note 93]. Kernels of fruit, in their stone or without it, are classed as *nuts*. Empty almond shells are classed as *husks*. The arachis or ground nut, in this class, is admitted to the privilege of temporary importation [cf. O.P. 198]. The class includes also the toulouzeana [*carapa i.*] nut, the anacarde proper [*oriental*], and the cashew nut [*anacarde occidentale*], beech nuts, the Bancoul or Molucca nuts, called also camiri; nuts of the calaba or palba, and of lophira; the nuts and almonds of the avoira or palm tree of the African coast [*Elaeis guineensis*]; the fruit of the aguier, called also the myrobolan or American prune [*Chrysobalanus Icaco*], the nuts, almonds, or chestnuts of Brazil (fruits of the Brazil chestnut tree or juvia), the kernels and almonds of the Egyptian myrobolan [*Balanites Egyptiaca*], &c. [cf. note 91], residue of the cabbage palm still containing oil is placed in this class.

Oleaginous seeds, such as sesame, linseed, carnation, or poppy, including poppy heads with or without seed, European mustard and rape seeds, European colza, Indian mustard, ravigon, cotton, rape (*Brassica campestris*), cameline, hemp, black til (*Gnissotia oleifera*), castor oil shrub (*ricinus communis*, &c. &c.). The oily pipe of grape, of the calabash, and water melon are included in this class. *Meals* of linseed and the other oleaginous seeds follow the seeds, excepting mustard, for which see *prepared spices*. Seeds of arachis, colza, hemp, mustard, rape, poppy, ravigon, sesame, cotton, and black til are admitted to temporary importation, cf. O.P. 198.

Seed grain: 1st. Garden seeds, excluding *dry vegetables*. 2nd. Forest seeds, excepting those that are classed with *oleaginous or medicinal fruits*. Acorns, whole, are in this class, but cut and dried by fire are classed with *dried chicory*; and roasted or ground with *roasted or ground chicory*. 3rd. Grass seeds. 4th. Seeds of madder, pastil, tobacco, bullrushes, teasles, soda, and other alkaline plants.

Note.	COLONIAL PRODUCE (pp. 22, 23).	Unit of Taxation.	Treaty (net).	General (4 % added).	
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilo-grammes.		a. b. d.	c.
103	Sugar**:				
	<i>Raw beetroot sugar</i> , below No. 13.	net	67 52	66 00	63 00
	from No. 13 to No. 20 (inclusive)	"	70 64	69 00	66 00
	<i>Raw cane sugar</i> , below No: 13	"	68 64	same as beet-root.	
	from No. 13 to No. 20 (inclusive)	"	71 76	"	
	<i>Refined sugars</i> , or sugars classed as refined, from England, Belgium, or Holland.				
	crystallised - - -	net {	78 35 & 4 %	—	
	other kinds - - -	"	76 18	—	
	from other contracting countries, excepting Austria.	"	85 80	—	
	<i>Sugars classed as refined (white powders</i> , above No. 20).	"	—	c. 67 50	
	from the Antilles, Guyana, Reunion, St. Marie de Madagascar, Mayotte, Nossi Béy, Tahiti, Noukaiva, and French Cochin China.				
	from all other places -	—	—	prohibited.	

¹⁰³ The Tariff distributes SUGARS among 3 principal classes. (1.) *Raw sugars*, i.e., not refined, equal or inferior to No. 20. (2.) *White powders*, i.e., not refined, superior to No. 20. (3.) *Refined sugars*. *Raw sugars* are again divided into 2 classes for entry for consumption, and into 5 classes for temporary importation. The sugars are classified by their richness as follows:—

FOR CONSUMPTION.

Raw sugars, below No. 13 -	less than 91°
" from No. 13 to No. 20	from 91° to 97°
White powders - - -	98° or more

FOR TEMPORARY IMPORTATION.

Raw sugars, below No. 7 -	less than 76°
" from No. 7 to No. 9 -	from 76° to 86°
" " No. 10 to No. 14	" 86° to 92°
" " No. 15 to No. 18	" 92° to 98°
" above No. 18 -	} 98° or more.
White powders - - -	

Bastards ("vergeuses"), *leakage* of sugar casks, not classed as *molasses* (cf. Note 104), and *jaggery*, are classed as *raw sugars*. *Sugar canes*, fresh or dried, or pressed but containing sugar, are taxed according to the quantity of crystallisable sugar they are found to contain. The same rule applies to *cane juice*. Small parcels of canes imported for curiosity are exempt as *collector's curiosities*, and pressed canes, containing no more saccharine, are *vegetable fibres not mentioned*. *Glucose* (grape sugar, fruit sugar, sugar of starch) is classed with *raw sugars*, below No. 13, when it is granulated; when it is liquid or in concrete masses it is classed with *syrops*. For *sugar of milk* (lactine), see Note 408. All sugars imported from European countries are liable to an extra tax of 3 francs per 100 kilos, plus the added 4 %. By the Treaty of 1 May 1861, this has been reduced to 2 francs net, in respect of beet sugars from Belgium and other countries, excepting Austria and Spain. To avail of this reduction the sugars must be imported *direct*. [This reduced duty has been calculated in the translated tables above.] The same regulation applies to *bastards*, with the same reduction in respect of those from refineries in the privileged states. The special duty on *white powders* above No. 20 is only applicable to the sugars from the French colonies, &c. named in the tables, and to French beet sugars. Other white powders are classed as *refined*. When a cargo of raw sugar contains a few bags or boxes of these, of prohibited kinds, they may be admitted, exceptionally, at the Treaty duties on *refined sugars*. *Refined sugars* are prohibited by the General Tariff; AUSTRIA is excluded from the Treaties in this particular. Special regulations affect the temporary importation of raw sugars, and the internal traffic in French sugars, and the export.

Note.	COLONIAL PRODUCE (pp. 22, 23).	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilo-grammes.		c.
	Sugar—cont.			
	<i>Refined sugar</i> from the above French colonies.	net	—	70 50
	from all other places -	—	—	prohibited.
104	Molasses:*			
	<i>for distilling</i> - - -	gross	exempt	—
	from French possessions -	"	—	exempt.
	from foreign countries -	"	—	a. b. d. c. 3 00 exempt
	<i>not for distilling</i> , and contain- ing saccharine, 50 % or less more than 50 %	} net { " }	{ 21 45 & 4 % 67 52	{ 21 45 24 45 a. b. d. c. 66 00 63 00
105	Syrups.* 106, Bonbons*	"	—	66 00 63 00
107	Confectionery:			
	with sugar or honey* -	net	34 32	{ a. b. c. d. 33 00 31 50 d. 34 50
	without sugar or honey	gross	8 00	a. b. c. d. 12 00 15 00
	" "	net	—	

¹⁰⁴ This is only the leakage from sugars. It is described as a glutinous refuse, reddish brown, sweet, slightly bitter to taste, weighing 1,374 to 1,427 grammes per litre, marking 40° to 44° on Baumé's areometer. It must not be confounded with the low quality sugars, which, congealed into a sort of paste, are known in commerce as *plate sugar* ("sucre plaqué et de melados"). *Molasses for distilling* must be taken, under specified restrictions, to be distilled in specified establishments, under surveillance; the guarantee must be discharged within 6 months; 100 kilogrammes of molasses are to render 33 litres of alcohol. Other syrups, waste of sugar, poor in saccharine, are admitted to the same regulation for distilling. *Molasses not for distilling* are of 2 classes: 1, containing 50 % of saccharine or less, and 2, containing more than 50 %. The latter are taxed with sugars below No. 13 (with the same regulations of extra tax). Caramel of molasses follows the same rule, and concrete must of beer (called "extract of malt," "extract of malt and hops," and "syrup of beer") is classed with M., containing less than 50 %.

¹⁰⁵ *Syrups* are taxed the same as *raw sugars* below No. 13. The class includes all solutions of saccharine substances obtained by any process, pure or mixed with fruit juices (for beverages), liquid or solidified (except *glucose granulated*, cf. Note 103); also *caramel* and similar preparations used for colouring; also, in General Tariff, *glycerine*, the sweet principle of oils, which, under the Treaties, is classed with *chemicals not mentioned*. (Scented glycerine is classed with *toilet vinegars*.) Syrups from the refinery are classed with *molasses* below 50 %, mixed with alcohol are *liqueurs*, medicinal (S. of quinine, ippecacuanha, &c.) are *compounded medicines*.

¹⁰⁶ *Bonbons* are taxed the same as *raw sugars* below No. 13. The class includes all articles for the confectioners made with sugar, which are neither *syrups* (105), nor *confectionery* (107).

¹⁰⁷ No distinction is made between solid or fluid C., nor between fruits simply "confits" and confectionery made of fruits (such as jellies, marmalades, &c.). The taxation is half that of *raw sugars* below No. 13 (cf. Note 96).

Note.	COLONIAL PRODUCE (pp. 24, 25).	Unit of Taxation.	Treaty (net).	General (4 % added).	
	1. <i>By General Tariff</i> (add 4%).	100 kilo-grammes.		c.	d.
108	Cocoa , beans and nibs** -	net	—	100 00	120 00
109	Coffee :**				
	berries - - -	"	—	150 00	170 00
	roasted or ground - -	"	—	a. b. c.	
110	Pepper ,** pimento,** cloves,**	}	—	200 00	208 00
to	cinnamon.**		—	c.	
115	Cassia Lignea ,** Cardamums* -		—	200 00	240 00
116	Nutmegs :**				
	in the shells - - -	"	—	200 00	240 00
	out of the shells - -	"	—	300 00	350 00
117	Mace ** - - - -	"	—	300 00	350 00
118	Tea ** - - - -	"	—	200 00	260 00
119	Vanilla * - - -	"	—	400 00	403 00
120	Tobacco , leaf or other :			a. b. d.	c.
	for the régie (monopoly) -	gross	—	6 00	exempt
	for private account - -	—	—		prohibited.
	2. <i>By Treaty Tariff.</i>				
108	Cocoa , beans or nibs,** imported from warehouses of contracting countries :—				
	for duty in column (c) -	-	100 00		
	" four per cent. additional -	-	4 00		
	" surcharge for warehouse -	-	12 00		
	together - - -	-	fra. 116 00	per 100 kilos. net.	
109	Coffee ,** beans, imported from warehouses of contracting countries :—				
	for duty in column (c) -	-	150 00		
	" four per cent. additional -	-	6 00		
	" surcharge for warehouse -	-	5 00		
	together - - -	-	fra. 161 00	per 100 kilos. net.	
110 to 120	} Other Goods in above table, referred to the General Tariff.				

¹⁰⁸ For *pounded cocoa* (see 478). Cocoa intended for manufacture of chocolate is admissible to temporary importation (cf. 198 O.P.).

¹⁰⁹ 40 % is discounted from the weight of coffee if imported in pulp, or 20 % if in parchment. *Coffee leaves* (coques et pellicules) imported alone are taxed the same as *berries*. *Infusions of coffee*, with or without sugar and milk, are taxed as *ground coffee*. Concentrated extracts of coffee, liquid or solid, are classed with *compounded medicines not mentioned*. Alcoholic drinks flavoured with coffee are *liqueurs*, if sweetened, or *alcohols* if not. Substitutes for coffee are classed with *ground chocolate*, unless they contain coffee, when they are classed as *ground coffee*.

¹¹⁰ The class includes the fruits of all pepper trees (*piper*). Pulverised pepper would be taxed the same, unless it had been so treated as to come within the class of *medicinal substances*. The above remark applies equally to pulverised *pimento* (111), *cloves* (112), and *cinnamon* (113).

¹¹¹ Pichurin beans (sometimes called *Sassafras nuts*) (*Nectandra Pichury*) are classed with *nutmegs without shells*. Ravensara nuts (*Agathophyllum aromaticum*) are classed with *N. in shells*. Tonguin beans in their skins are classed with *N. in shells*, stripped of their shells, or pulverised, or in cakes from which the oil has been expressed, they are taxed with *N. without shells*. The restriction of import by sea, common to the other spices, to bonded ports (**), does not apply to Tonguin beans, they are admissible by all offices open to goods which are taxed more than 20 francs per 100 kilos. (*) (cf. No. 35 O.P.).

¹¹² Maté or Paraguay tea is classed with *medicinal leaves not named* (160).

¹²⁰ (Compare Note 498) 350 O.P. The same regulations apply to tobacco unmanufactured and manufactured, and are given in detail in Note 493.

Note.	121. VEGETABLE JUICES (pp. 26, 27).	Unit of Taxation.	Treaty (net).	General (4 % added).
		100 kilo-grammes.		for d. add 8 frs. unless otherwise quoted.
122	Pure European gums* -	gross	—	a. b. c. exempt.
123	Pure exotic gums:**			c.
	from Sénégal - -	"	—	exempt.
	from elsewhere - -	"	—	exempt.
124	European resins :			a. c. b.
	of all kinds, distilled or other -	"	exempt	exempt 1 00
	(c.) indirect import - -	"	—	c. d. 3 00
125	Exotic resins,** - -	"	—	exempt —
	imported from a contracting country.	"	9 60	— 9 60
	Balsams:**			c.
126	} benzoin - - - -	"	—	exempt 3 00
127		"	2 00	exempt 3 00
128		"	2 00	2 00 5 00
129	} styrax - - - -	"	2 00	2 00 5 00
130		"	—	a. 18 00 24 00
131	copaiba and others - -	net	—	a. 18 00 24 00
132	Fixed oils :			a. b. c.
133	pure, olive - - - -	gross	3 00	3 00 6 00
134	" palm, cocoa-nut, toulou-			
	couna and illipé, oils :			
	from Senegal** - -	"	—	exempt —
	from elsewhere - -	"	—	a. b. d. c. 4 00 1 00
	arachides and castor oils -	"	1 00	a. c. b. 6 00 7 00
135	other fixed oils, pure - -	"	6 00	6 00 7 00
136	fixed oils, scented* - -	net	—	a. b. c. 120 00

¹²¹ The Tariff distinguishes *pure gums*, *resins*, and *gum-resins*, and defines *gums* as concrete vegetable juices soluble in water or mixing with water into a mucilage, but insoluble in alcohol and oil, insipid and scentless, burning almost without flame, and in all cases exuded from certain trees. ¹²² All *European gums* are the produce of stone fruit trees (*Rosaceæ*). The gum of the olive tree, although not a real gum, is placed in this class.

¹²³ *Exotic gums* include: 1. The gums of Arabia, Senegal, Australian, of the Cape of Good Hope, Barbary, and India, from various *acacias*. 2. *Adraganthine* from the Levant and Persia, from various *astragalus*. 3. A false *adraganthine* gum, or *gomme de Sassa*. 4. *Bussorah* gum, also the gums of mahogany, &c. ¹²⁴ *European resins* are defined as the resinous produce of pines, firs, and larches distinguished as: 1. Products of exudation, raw or refined, the latter being the *turpentine* of commerce. The *turpentine* of the balsam fir known as *Canada balsam*, is classed with *balsams* not mentioned (cf. 131). 2. Products of distillation, i.e., oil of turpentine. 3. Refuse from refining or distillation, i.e., *colophony*. 4. Products of combustion, i.e., black pitch, tar, and liquid pitch. ¹²⁵ *Exotic resins* containing benzoic acid are classed with *balsams*. ¹²⁶ *Pure exotic resins* are defined as concrete vegetable juices, vitreous and friable, electric under friction, fusible and inflammable, burning with much odour and smoke, generally soluble in alcohol, ether, and oil, but not in water; some are droppings from trees, others are artificial. *Gum-resins* are described as a combination of gums and resins. In all returns to the Custom House it must be indicated by the letters R or GR to which of the above classes the goods belong. *Resins* that have been *refined with alcohol* are taxed for the quantity of alcohol estimated by the Government experts to have been used in the operation. *Copal carved* or otherwise manufactured is classed with *merceries*.

¹²⁷ *Resins* charged with benzoic or cinnamic acid are called *balsams*, also some other liquid, aromatic resins, which do not contain benzoic acid, such as *copaiba*, *Canada*, *Mecca*, &c. The class only includes *natural balsams*, the artificial balsams of pharmacy are classed as *compound medicines*, excepting *Riga balsam*, and "sympathique," which are only herbs in brandy, and are classed with *distilled waters containing alcohol*.

Note.	VEGETABLE JUICES (pp. 28, 29).	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilo-grammes.		for d. add 3 fra. unless quoted.
137	Volatile oils or essences*:			a. b. c.
	of rose - - -	net	—	4,800 00
	of rosewood - - -	"	100 00	4,800 00
	of bitter almond, of anise, Badian, cajeput, camomiles, cinnamon, caraway seed, cassia bark, fennel, cloves, mace, nutmeg, sassafras and Valerian.	"	100 00	600 00
	of orange, lemon, and their varieties.	"	100 00	480 00
	other kinds - - -	"	100 00(a)	90 00
138	Camphor:**			c.
	raw - - -	gross	2 00	exempt.
	refined - - -	"	2 00	a. b. c. 2 00
139	India-rubber & gutta percha:**			c.
	raw - - -	—	—	exempt.
	or melted in lumps - - -	gross	—	d. 3 60
140	Bird-lime - - -	"	—	a. b. c. exempt.
141	Manna* - - -	"	8 00	—
	" - - -	net	—	96 00
142	Aloes** - - -	gross	—	c. 6 00 d. 12 00
143	Opium** - - -	net	—	a. b. c. 240 00
144	Liquorice, juice* - - -	gross	4 00	57 60
145	Sarcocolla, Kino and other dried vegetable juices.**	"	2 00	c. exempt.

¹³⁷ *Benzoin acid* or flowers of Benjamin is classed with *chemical produce*.

¹³⁸ OILS.—The word only covers *vegetable oils*; *animal oils* are *fats*. Alcohols distilled with flowers and charged with their perfume are *perfumery*, or sweetened with sugar, *liqueurs*. For other products improperly called oils see *Vegetable Juices, Bitumens, Chemical Produce, Compound Medicines*. All kinds of oils and *animal fats* (see Note 32) introduced or manufactured in communes containing 4,000 inhabitants are subject to an INTERNAL DUTY, which varies from 6 to 12 francs according to the number of the population. This does not apply to *mineral oils* nor to *essential oils*.

¹³⁹ The class includes: 1. The waste water of reservoirs of olive oil, when it holds more than 6% of oil. 2. Lubricating grease of olive oil and tallow. 3. Waste from oiling wool. 4. "Huile de Poivre" and "Succédané d'olive," two compounds imported for oiling wools. *Olive oil* imported raw for refining is admitted free (see 198, O.P.).

¹⁴⁰ *Palm oil* is admitted free against an undertaking of re-export as stearic acid or candles (see 198, O.P.). The same rule applies to the oils of [135] imported for refining.

¹⁴¹ The class is for *unmixed essences*. Others are classed with *medicines or chemicals*. Amylic alcohol (oil of potato) is in (137) for the General, and with *chemical products* for the Treaty Tariff.

¹⁴² A composition of gelatine, molasses, and glue, used for making printing rollers, is admitted as *India-rubber, raw*.

¹⁴³ Refuse of extracts of dye-wood, expressed, are classed with [145], subject to the approval of the Government experts.

(a) The Importer may select the General Tariff.

Note.	146. MEDICINAL KINDS (pp. 30,31).	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilo-grammes.		for d. add 3 fra. when not specially quoted.
147	Roots :			c. d.
148	} ipecacuanha; jalap - -	gross	2 00	exempt 5 00
149				
151	sarsaparilla - - -	"	2 00	exempt 3 00
150	liquorice - - -	"	exempt	a. b. c. exempt.
152	} rhubarb, Florentine iris, ginger, and other kinds - -	}	2 00	a. b. d. 2 00 5 00
155				c. exempt.
156	Barks :			
157	} orange, lemon, and their varieties	"	2 00 (a)	a. b. c. exempt.
158				
159	quinine, and others - -	"	exempt	a. b. d. 2 00 5 00
160				c. exempt.
161	Herbs, leaves, and flowers :			a. b. c.
162	Absinthe, mistletoe, leaves of orange and ivy (twigs and branches included), flowers of lavender and orange, capillaries, semen-contra.	"	2 00 (a)	exempt.
163	} others - - - -	"	exempt	a. b. d. 2 00 5 00
164				c. exempt.
165				
166	Fruits and seeds :			c. d.
167	cassia, sans apprêt - -	"	—	exempt 12 00
168	" confite (canéfige)* - -	net	—	c. 63 00
169	tamarind, pods and pulp -	gross	—	c. d. exempt 12 00
	" preserved in sugar* -	net	—	c. 31 50
	myrobolans, preserved* -	"	—	74 40
	badian (star anise)* - -	"	—	c. d. 20 00 31 00
170	leaflets of senna - - -	gross	—	exempt 12 00
171	others not mentioned - -	"	—	exempt 12 00
172	Lichens, not used for dyeing -	"	—	exempt 3 00

146 Pulverised M.K. are treated as compound medicines (see Note 455).

147 Compare furinaceous food, woods, dyes, vegetables, chicory root.

150 Cf. liquorice juice [144].

153 Florentine iris, manufactured, is classed with merceries. Waste pieces or parings are [153].

156 Compare dyes and tannines, &c.

158 Orange and lemon, candied, are confectionery.

160 Compare dyes, vegetables, fodder, &c.

163 164 The class includes leaves and flowers of lemons and of acacia farnesiana.

169 Tamarinds in molasses are classed as *t in sugar*.

172 The class includes Corsican moss, Iceland moss, and other seaweeds, a Japanese fungus called "sea-c," and a sort of fluvial sponge called the "adarca," and in commerce, "marine moss."

(a) The Importer may select the General Tariff.

Note.	173. COMMON WOODS (pp. 32, 33).	Unit of Taxation.	Treaty (net).	General (4 % added).
				for d. add 3 fra. per 100 kilos. gross.
				a. b. c.
174	Firewood , billets and faggots -	—	exempt	exempt.
175	Builders' timber :			
	from Senegal, all kinds -	—	—	exempt.
	walnut or oak, rough or sawn -	—	exempt	exempt.
	other timbers :			
	rough, or squared with the hatchet. [metres thick.	—	exempt	exempt.
	sawn, more than 80 milli-	—	exempt	exempt.
		100		
	“ not more “	metres.	exempt	0 06
176	masts, stumps, spars, handles -	—	exempt	exempt.
	Charcoal , of wood and awn -	—	exempt	exempt.
177	Small board (wood slips) -	per mille	0 10	0 12
178	Hoop board -	—	exempt	0 12
179	Hop-poles , waires and wairettes -	per mille	0 25	0 30
180	Staddle , staff wood, and trenails -	“	exempt	0 12
181	Oziers , in bundles -	—	exempt	exempt.
182	Roots , for brushes -	—	exempt	exempt.
	Millet stalks , for brooms -	—	exempt	exempt.
		100 kilo-		
183	Broom : for brushes, raw -	grammes.	exempt	exempt.
	“ stripped -	gross	0 50	0 60
184	Cork : rough, rasped, or planks -	—	exempt	exempt.
	“ “ indirect	gross	exempt	b. c. d. 1 00 3 00

* 174 The class includes, without distinction, all kinds of firewood; butt-ends of tree stems, vine-branches, broom in fagots, and shavings not cut from rattans nor from dyewoods; also mangrove wood, all kinds of sawdust, that used in paper making included, and shavings imported for making pyroligneous acid or vinegar.

175 The class includes all wood useful for building or shipbuilding, *excluding all exotic cabinet woods*. Amongst woods useful for other purposes, but classed in [175], are mentioned apricot, acacia, arbutus, alder, greenheart, birch, buckthorn, true cedars (*Libani* and *Deodora*), also the white californian, and red cedars, and cedrelas, cherry or wild cherry, hornbeam, chestnut, service-tree, or mountain ash, maple, ash, lignum-vitæ, juniper, beech, holly, yew, larch, olive, poplar, plane, pear, apple, plum, willow, sycamore, teak, lime, aspen, privet, &c. For veneers see Note [186]. Telegraph posts and railway sleepers even injected, &c. or tarred are 175. *Frisers and floor planks* planed and beaded, but not joined, are 175 in the Treaty Tariff, in the General Tariff they are *manufactures of wood*. Planks sawn and polished for parts of pianos are classed as simply *sawn*. For all other worked timber see *manufactures*. *Circular sawing* is treated the same as *straight*. *Deal planks*, for making cases, &c., are admitted to TEMPORARY IMPORTATION [198 O.P.]

176 *Made masts* are *manufactures*. *Boat-hooks, gaffs, &c.*, fitted with their iron parts, are *maritime equipments*; *tar brushes*, complete, are classed with *common brush-making*.

178 Includes wood split or sawn for hoops or laths, not exceeding 5 centimetres in breadth, and 26 millimetres in thickness, or 34 millimetres square. Above these dimensions they are classed as *builder's wood, sawn*. The class includes:—1. "*Essandoles*," square pieces of fir, used for tiles. 2. Strips of fir available as laths, called "*chandelles de la Forêt-Noire*." 3. Strips of fir for Venetian blinds, unless planed, &c., when they become *manufactures*.

179 *Hop-poles* of soft wood, not thicker than 27 centimetres circumference; *Stanchions* not exceeding 65 cm. circ., and also of soft wood; and small firs of 10 cm. or less, used for training hops, are in this class. "*Waires*" and "*wairettes*," are of oak barked. "*Waires*" are of two kinds; 1, not more than 54 cm. circ., for props in coal-pits; 2, not more than 23 cm. circ., for splitting into laths for roofing. "*Wairettes*" are for hooping barrels, and are not more than 16 cm. circ. The circumference is measured at the base.

180 Includes *staddle* of all kinds and dimensions, *simply sawn or split*, such as staves and pannels of oak or soft wood, for coopers or carpenters; also *trenails* for shipbuilders' use.

Note.	EXOTIC WOODS (pp. 34, 35).	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilo-grammes.		
186	Cabinet woods : all kinds, from Senegal and its dependencies.** in logs or billets, or sawn, <i>more than 2 decimetres thick</i> :— boxwood, direct import - " indirect " - other kinds** - sawn, <i>not more than 2 decimetres thick</i> :— boxwood - other kinds **	— gross " " " " "	— — — 3 60 — 4 80 4 80	exempt. exempt. b. c. d. 1 00 3 00 exempt 3 60 a. b. c. 1 00 4 00 1 20 4 80
187	Scented woods -	"	—	exempt 3 60
188	Dye woods : logs, fustic** and barberry - " other kinds - ground,** direct import - " indirect "	" " " " "	exempt exempt exempt exempt	a. b. c. c. a. c. b. c. 3 00 3 00

¹⁸¹ Includes sticks and switches for whip-handles, and for tying-up faggots, or basket making, or for training plants; also sticks of cherry, hazel, or chestnut, cut into lengths for making pipe stems.

¹⁸² Includes the root of couch grass (*Andropogon ischaemum*).

¹⁸³ Broom dried at the furnace is classed as *raw*. The class includes: 1, stems of the alce; 2, *Pissasaca*, which is classed with *stripped broom* when dyed or cut to assorted lengths.

¹⁸⁴ The fibrous red inner bark of the cork tree is classed with *tan-barks*. Pulverised cork is treated as *raw*. Pieces of resinous cork imported for lighting fires with are classed as *dry pitch*. Cork imported *raw*, for manufacture in France, is admitted to TEMPORARY IMPORTATION [198 O. P.]

¹⁸⁵ With a few specified exceptions all EXOTIC WOODS are classed as *cabinet woods*, or as *dye woods*, or as *scented woods* (cf. Note 175).

¹⁸⁶ The class includes—1. *Wens* and *knots* of common trees, fit for ornamental carpentering. These are classed as *boxwood*. 2. *Briar* root shaped for making pipes, classed as *sawn boxwood*. 3. Planks of European woods *stained*. 4. *Veneers*, not more than 3 millimetres thick, of the cherry, maple, ash, chestnut, walnut, elm, and other European trees which are also exotic. 5. Strips of thin wood, stained or painted, for wall-covering or for bookbinding. These five classes are exempt from the restrictions indicated by the ** above. The mahogany of Senegal (bastard mahogany) and the Havana cedar (*Acacia farnesiana*) are classed with *builder's wood*.

¹⁸⁷ The principal scented woods are Agra wood, alce wood, abaloth or eagle wood, green ebony, xylo-balsamum, camphor tree, cinnamon, rosewood, white and yellow, or citron, sandal wood, and *sassafras* wood. The class includes, though they have no perfume, nephrite wood (?), garou (?), and tamarisk, and the root of the clove tree. Clove bark is classed with *medicinal barks*.

¹⁸⁸ *Dye woods*.—The class only admits shavings or small pieces useless for other purposes, and in cases of doubt woods must be cut up small at the customs. Shavings are classed as *logs*. The roots of barberry are classed with the wood; both produce a yellow dye. They are exempt from the ** restriction. *Rhus coriaria* (the alumac) and *Rhus pentaphylla*, with other trees of the same kind useful for dyeing and tanning, are classed with *fustic*. Among other kinds are mentioned—logwood or Campeachy wood of various species, Brazil woods, Fernambuco wood, Sapan, yellow wood (which the English call *old fustic*, *Macura tinctoria*; the young *fustic* is from *Rhus cotinus*), sandal wood, &c.

¹⁸⁹ The class includes abortive cocoa-nuts; also the small inedible cocoa-nuts of Brazil.

¹⁹⁰ Includes—1, areca nuts; 2, corcoso nuts, called vegetable ivory; 3, the shells of the nuts of the *acacia palm*; 4, the fruit of the dwarf palm (*Chamerope humilis*); 5, of another palm (*Downia erubescens*); 6, stones of *Elaeocarpus*; 7, orange-trees (cf. Note 80); 8, pipe of oranges and lemons.

Note.	FRUIT STEMS AND FIBRES (pp. 34, 35).	Unit of Taxation.	Treaty (net).	General (4 % added).	
		100 kilogrammes.		c.	d.
189	Cocoa-nut shells - -	gross	—	exempt	3 60
	Empty Calabashes - -	"	—	exempt	3 00
190	Hard seeds for carving -	"	—	a. c. b. d. exempt	3 60
191	Canes and reeds, raw -	"	exempt	exempt	1 00
192	Flax and hemp, raw, braked, tow or hards, or combed.	"	exempt	exempt	3 00
193	Jute, raw, braked, or combed -	"	exempt	exempt	3 00
194	Phormium, abaca (Manila hemp), and vegetable fibres not mentioned, raw, braked, hards, or combed.	"	exempt	exempt	3 00
195	Cotton :				
	from India, by sea†† or land -	"	exempt	—	—
	wad† (carded and gummed) -	"	10 00	—	—
	other (see General Tariff) -	—	—	—	—
	raw, by sea†† or land (General Tariff).	net	—	a. c. b. d. exempt	3 00
	not ginned, by sea or land } (General Tariff) - - }	gross	—	exempt	b. 0 75
	wad† (carded and gummed) (General Tariff)	net	—	d. 3 00	—
196	Limetree bark for ropemaking -	gross	—	a. b. c. d. 120 00	123 00

¹⁹¹ Cf. Notes 583, 194, 673. The class includes exotic and European produce. A. EXOTIC.—*Rattans*, cut into lengths and stripped of their bark, are treated as *raw*. The pith, simply extracted from rattans, or even cut into lengths, is in this class when its diameter exceeds three millimetres; less than that it is classed with *prepared rattans*. The class includes—1, the stems of palm and laurel trees; 2, the leaves, entire or split, and the fibres of *Carludovica palmata*, and of the trees and shrubs of the palm tribe used for making Panama, &c. hats. But these fibres *cleaned* or *bleached* are treated as *straw plaits*. B. EUROPEAN.—*Esparto*, retted, beaten, or combed, is classed as *raw*. Besides the common reed, the *Arundo donax* (of Provence), *Juncus*, *Typha* (bulrushes), *Scirpus*, and *Carex* among marsh rushes, and the horse-tail, or Dutch rush (shave grass), used for polishing upholstery, are mentioned in this class.

¹⁹² Cf. Notes 233 and 692. The class includes—1, *thrums* (ends of weavers' threads, &c.); 2, *flax tow*, ordinary and "cottonised," (i.e., bleached chemically, and resembling carded cotton); 3, *hemp scadding* (used for padding uniforms). The above goods are always treated as produce of the country they come from. For substitutes of hemp and flax, see notes 193, 193. *Hemp* imported for ropemaking is admitted to TEMPORARY IMPORTATION [198 O.P.]

¹⁹³ *Jute* from a treaty country is exempt from the warehouse tax on indirect importation.
¹⁹⁴ All banana fibres are classed with *abaca*. Among the *vegetable fibres not mentioned* are—1, those of the dwarf palm, called *crin végétal*; 2, those of the agaves, called *pita*; 3, of *Dattica cannabina*; 4, of the *coccol palm*; 5, of *aloes*; 6, of *Sisal* hemp; 7, *China grass*; 8, *Tillandsia usneoides*; 9, of *bananas*; 10, of *Daphne papyrifera*; 11, *pine leaves*, dried and pounded, or their fibrous parts in tow; 12, *Crotalaria juveca* of Senegal; 13, shavings and waste of the *pith of rattans*, and strips from refuse rattans; 14, the hairy down of certain trees, &c. Also *sugarcane* when all their saccharine has been expressed (cf. Note 103). Vegetable fibres simply *twisted* in hanks, or even *bleached* and *dried*, are classed as *braked* (but compare Notes 191, 682); *waste* of braking, combing, or spinning v. l., and *waste* and *shavings of rattans*, are treated as produce of the country they come from.

¹⁹⁵ *Cotton* from India, *raw* or *not ginned*, is exempt, under the Treaty Tariff, from the warehouse tax on indirect importation, but this only applies to cottons from *British India* (Surat, Madras, Bengal, &c.). *Waste cotton*, carded waste, cotton or waste carded, not gummed and combed, are classed with *raw*, and treated as produce of the country they come from. All spun cotton is classed as *garn*

Note.	DYES AND TANNINS (pp. 36, 37).	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilogrammes		a. b. c.
198	Madder , in the root, green or dry or in powder, or " <i>en paille</i> " (imperfectly ground) - -	}	exempt	exempt.
199	Turmeric , in the root or in powder			
200	Quercitron †† (<i>Quercus tinctoria</i>) -			
201	Tan Barks , ground or not -			
202	Sumach and Fustic , bark, leaves, twigs, or ground - -			
203	Dye Pods : Dividivi, whole pods, broken, or ground - - Other dye pods, whole or simply broken - -	—		
204	Dye Lichens - - -	}	gross	a. b. d. 3 60 c. exempt.
205	Saffron - - -			
206	Safflower , flowers - - -			
207	Buckthorn berries - - -			
208	Arnotto seeds - - -			
209	Gall nuts - - -	}	gross	a. b. d. 3 60 c. exempt.
210	Valonia - - -			
211	Myrobolans - - -			
212	Alkanet - - -			
213	Racine de garou - - -			
214	Walnut shells - - -	}	"	exempt
215	Woad (<i>reseda luteola</i>) - - -			
216	Pastel or Woad (<i>isatis tinctoria</i>) leaves and stems - - -			
217	Saw-wort - - -			
218	Dyer's Broom - - -			
219	Leaves not mentioned, excepting :- (In column d.) 203. DIVIDIVI, whole pods or broken (not ground); OTHER DYE PODS. 206. SAFFLOWER. 3 60 per 100 kilos. gross. All the rest (in column d.) 3 00 per 100 kilos. gross.			

Waste recorded and gummed is woad. For waste of cotton yarn, see 503. Anti-rheumatic preparations of cotton woad are treated as woad.

¹⁹⁸ Includes the fibrous leaves of pine apples.

¹⁹⁹ With Madder, the root of *Rubia tinctorum*: are classed 1, Chay root; 2, a root called *moona* (from a plant of the *Moringa* family); 3, bark of *paraguanan* (*Macrocnemum tinct.*). For extracts of madder, see *Garancine* (432). Madder root, green or dry, is admitted to TEMPORARY IMPORTATION for grinding (cf. 193 O.P.). With 199 is classed "*autour*." With 200 "*clavaler*," "*copalchi*," and mangrove barks. The import of 200 is restricted (by sea) to bonded warehouses. ²⁰¹ cf. 184. The class is chiefly for native barks useful for tanning. ²⁰² The class includes *coriaria myrtifolia*. For the wood of these plants, see [185]. ²⁰³ Seeds used for dyes, not specially mentioned, are in this class. ²⁰⁴ Are principally—1, *Eccellia tinctoria* and *fuciformis* of the Canaries and Cape Verde Islands; 2, the lichen *Zartarens* of Sweden and Norway; 3, the lichen *parvulus*. The class includes the lichens *culpin*, *pulmonaire* de chêne, and *pustuleux* (*umbilicaria pustulata*), &c. For lichens and mosses of pharmacy, see

Note.	PRODUCE AND WASTE (various).	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilo-grammes.		a. b. c. for d. add 1% per 100 kilo
220	Beetroots - - - -	gross	exempt	exempt.
221	Fresh Vegetables - - -	"	—	exempt.
	Vegetables, in salt or vinegar -	"	3 00	3 00
222	Fodder, hay, straw, and pasturage, bran of all kinds, vetches.	"	—	exempt.
223	Hops* - - - -	net	12 50	54 00
	Trees for planting - - -	gross	—	exempt.
224	Daffodil bulbs - - -	"	—	exempt.
225	Bulbs or onions - - -	"	exempt	exempt.
226	Yeast - - - -	"	—	exempt.
227	Agaric:			
	oak or fungus, crude - - -	"	—	exempt.
	prepared (tinder) - - -	"	2 00	2 00
	white or larch - - -	"	—	exempt.
	Truffles, fresh, dried, or pickled -	"	exempt	exempt.
228	Mushrooms - - - -	"	exempt	exempt.
229	Lycopodium - - - -	"	—	exempt.

medicinal kinds [172]. Cf. note 426. ²²⁰ Includes seeds of cactus. ²²¹ Includes stones of the mango fruit whole or pulverised. ²²² preserved myrobolans are specially taxed as medicinal fruit [160]. ²²³ Gervus (if the bark is classed with medicinal fruit, and the wood, with scented wood, see the note. ²²⁴ Include empty almond shells. ²²⁵ The paste called in commerce "pastel," is a prepared dye. The class includes the leaves and stems of the indigo plant, whole, or dried, or pounded. For indigo, see note 421. ²²⁶ The class includes—1, leaves, whole or pulverised, of the acacia, barberry, henna, holly, "lentisque," myrtle, walnut tree, tamarisk, sunflower, and others used for dyeing and tanning; 2, the flowering buds of *sophora japonica*. Leaves of *shumac*, *juskie*, *wood*, and *saw-wort* are specially taxed, cf. 216.

²²⁷ The class includes beetroots roasted or cut to pieces. This class comprises all pods, plants, herbs, and culinary roots used in cookery, but chloory rose potatoes, and beetroot are specially tariffed. The water melon, pumpkin, sweet pimento, tomato, an mad-apple are included. For dry vegetables see (78). With vegetables in salt or vinegar are included all vegetables which have been in any way prepared for preserving, also Indian corn in grain cooked and preserved in oil. For the INTERNAL TAX, to which all preserves in vinegar are subject, see Note 47a.

²²⁸ Oats are cereals. Beans are dry vegetables. Waste of rice only fit for cattle food is classed as bran and treated as the produce of the country it comes from. With vetches are classed lupines and a Indian seed called *gingidie* very like the wild vetch of Europe (*Tephrosia*).

²²⁹ Hops.—The resinous dust that is sifted out of hops and known as "lupulus" is classed as hop an extract and a volatile oil are obtained from hops by concentration; 100 kilogrammes of hops yield 25 kilogrammes of extract and 200 grammes of essence. The extract is taxed at four times the duty of the hops, the volatile oil is classed with volatile oils not named. See Note 137.

²³⁰ The powder of asphodel is classed with the bulbs.

²³¹ Oak agaric simply cut and beaten is admitted as crude. It is then red, dry, and soft to the touch. It will not light without contact with fire, while tinder takes fire from a spark. Crude agaric burns slowly and evenly, tinder sparkles, finally their smell is different. With tinder are classed artificial tinder made of paper and rags, and balls made of vegetable waste mixed with charcoal for the same use. Powdered agarics are classed as medicines.

²³² The class is for edible mushrooms, it includes, however, a gelatinous mushroom found on old bushes, used in the finishing of woven stuffs, and called "Oreille de Judas."

Note.	PRODUCE AND WASTE (various).	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilogrammes.		for d. add 3 frs. per 100 kilos.
	Teazles - - - -	gross	—	exempt.
	Chicory roots:			
	green - - - -	"	0 25	0 25
	dry - - - -	"	1 00	1 00
230	Alkaline plants - - - -	"	—	exempt.
	Marc of grapes, of roses - - - -	}	—	exempt.
231	Olive oil cakes - - - -			
231	Dry cakes (olive husks) - - - -			
232	Oil cakes - - - -			
233	Rags - - - -	"	—	exempt.
	Peat (for burning) - - - -	}	—	exempt.
	Turf, raw or carbonised - - - -			

²²⁹ This is the seed of *Lycopodium clavatum*, a very fine and light pale yellow dust, highly inflammable, and sometimes called *vegetable sulphur*. It is often mixed with powdered rosin, which makes it still more inflammable. It is used for pharmacy and fireworks. With it is classed *pine dust*, i.e., the fertilising powder of the flower of pine, which is used for the same purposes, and is also called *vegetable sulphur*. It is also highly inflammable and of a yellow sulphur colour.

²³⁰ These are sea or saltmarsh plants, known variously in different localities, and according to their kinds, as varecs, sea-weeds, wrack, marsh samphire, orach, kail, jointed glasswort, salicor, &c.; some are used as manures, others yield the soda of commerce. With them are classed the fibres of the *poridonia* and the *costira marina*, the smooth, delicate, and extremely pliable leaves of which are used for packing bottles, &c.

²³¹ The muddy water, refuse from crushing olives, is in this class when it does not contain more than 6 % of oil, otherwise it is taxed as oil. *Olive husks (grignon)* are completely exempted of oil, they are only used as combustibles.

²³² Residuum of the pulps of beetroot and of potatoes, cakes of maize, and animal membranes emptied of tallow are in this class. Cakes, or residues of almonds and of pine seeds, are classed with *pastos* (PERFUMERY).

²³³ *Rags*.—The class includes all raw material for paper of every description, including waste paper. For the different degrees of preparation or manufacture consult the notes under *paper* 554, 555, and for *old clothes*, Note 559.

MINERAL SUBSTANCES.

Note.	ROCKS, EARTHS, AND COMBUSTIBLE MINERALS (pp. 40, 41).	Unit of Taxation.	Treaty (net).	General (4 % added).
234	Marbles : white statuary marble, or any other kind, rough or squared, or sawn at least 16 centimetres thick. the same sawn to a less thickness - excepting white statuary marble. By Treaty. sculptured, polished, or otherwise worked. excepting modern statues. By Treaty. children's toys, so called, made of marble.	100 kilogrammes. gross " " " net	exempt 1 50 exempt 1 50 exempt	a. b. c. 1 00 1 50 — 48 00 —
235	Ecossines - - - - excepting modern statues - -	gross —	0 50 exempt	— —
236	Alabaster : rough or squared, or sawn at least 16 centimetres thick. the same sawn to a less thickness - sculptured or polished (excepting modern statues). By Treaty. " " By General Tariff modern statues - By Treaty	gross " " ad val. —	exempt 1 50 1 50 — exempt	1 00 1 50 — 18 % —

²³⁴ The Tariff distinguishes *white statuary marbles* and *marbles "de decoration."* The former are known by their fine close grain, by their homogeneous character, and perfect whiteness. Nearly all come from Carrara. With *other marbles* are classed serpentine, porphyry, jasper (but not the quartz or flowered jasper, which is classed with *agates*), labradorite. For marble grindstones see Note [242]. *Malachite* imported in pieces large enough for the manufacture of art or ornamental objects, carved or polished, or made into vases, clockstands, &c., is classed with *other marbles*. Cut for jewels it is classed with *precious stones cut*. Mounted in gold, silver, or platinum it is *jewellery*. Imported as an ore for extracting the copper, it is classed with *copper ore*. In an earthy condition, pulverised, it is called mountain green (Sander's green), and classed with *colours*.

Marble which has been pulverised, for moulding vases, &c., is classed with *other marbles*. Pieces large enough to be manufactured are classed according to their kind, mere fragments are classed with *stone rubbish*. A cubic decimetre of marble is taken to weigh 2½ kilogrammes. Rough blocks hewn into the shapes of columns, bases, &c. are classed as simply *squared*, sawn and merely smoothed with sandstone as *awn* (the last remark applies especially to *marble slabs* for flagging); but all *sawn marbles* further advanced than this are classed as *polished*. *Sculptured* are all objects, such as columns, bases, corbels, capitals, &c., presenting outlines, mouldings, or ornaments of any kind executed from a plan or drawing.

Sculpture anterior to the 18th century is classed with *collections*. The works of French artists studying at Rome are exempt, and all modern statues are exempt by the Treaties. This includes *statuary in relief* and in half-relief.

²³⁵ *Ecossines*.—A grey limestone produced only in Belgium, sometimes called Flanders granite.

²³⁶ *Alabaster* sculptured, polished, pulverised, &c. is subject to the rules of Note [234]. Ornament made partly of *alabaster*, in coloured pastes for knife handles, &c., imitating ivory, marble, &c. are classed as *works in alabaster*.

Note.	ROCKS, EARTHS, AND COMBUSTIBLE MINERALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilogrammes.		a. b. c. for d. add 8 fra. per 100 kilos.
137	Precious stones of all kinds, rough or cut.	—	exempt	exempt.
138	Agates and similar stones : rough - - - manufactured - - -	— ad val.	exempt 10 %	exempt. 10 %
139	Rock crystal : rough - - - manufactured, not mounted - - " mounted - - (pp. 42, 43).	— — [See Jewellery.]	exempt exempt	exempt. prohibited.
140	Stones : cut or sawn, lithographic stones,† modern statuary.	ad val.	exempt	18 %
	Marbles , toys made of stone -	net	—	12 00
	Other stone work , carved or polished.	gross	0 50	18 % ad val.
241	Millstones - - -	„	exempt	exempt.

²³⁷ For stones used by jewellers, and not in this class, consult Notes [238, 239]. The class includes an iron pyrites called "marcasite," malachite in form of jewellery, modern mosaics for jewellery, lava in cameos, &c. For imitations of precious stones see [496]. The class only includes loose stones, or those temporarily set in common metal; those in gold or silver settings are *jewellery*. Glasiers' diamonds *bores* are in this class, *mounted* they are taxed as *tools*.

²³⁸ The class includes:—1, the "quartz-agates" (chalcedony, cornelian, sard, onyx, &c.); 2, opals; 3, jasper (quartz-jaspe); 4, cat's-eyes; 5, amethyst (quartz-violet), topas (quartz-jaune), rose-quartz, aventurine, &c.; also obsidian, aventurine, feldspar, and similar stones; and lapis lazuli (which, pulverised, is *ultramarine*). Set in gold or silver these are classed as *jewellery*, in copper gilt, *imitation jewellery*, unless their setting is obviously of no consequence. The links of sleeve buttons, &c. are not treated as *settings*. *Agates* roughly cut for firestones are classed as *rough*. Children's marbles of glass and porcelain are classed in the General Tariff with *agates*, in the Treaty Tariff they are *porcelain* and *glass* respectively.

²³⁹ The class is only of *rock* (or mountain) *crystal* properly so-called. Other varieties of hyalite are *agates* [238]. By *manufactured* is meant made into vases, cups, and other objects; simply split or cut up and unpolished is classed as *rough*. The prohibition of the General Tariff does not apply to crystal, cut or polished, for optical instruments or watches, this is classed with *watch, &c. glasses* [cf. 493]. For mirrors for optical instruments, cf. [626].

²⁴⁰ Consult Note [234]. The class includes manufactures in spar (chandeliers, vases, &c. of fluor spar); figures, &c. moulded in plaster or stucco; medals in sulphur; modern mosaics which are not *jewellery*; objects of basalt or lava (not cameos), moulds of stone, plaster, or sulphur; slabs, tiles, &c. in cement or artificial stone. Lithographic stones rough or merely polished are classed with *stones, &c. used in art and manufacture, not named*. Lithographic stones are subject to the special regulations affecting *books, &c.* [see Note 570]. Children's marbles made of stucco, and coloured or not, are classed with *stone marbles*, and they are taxed the same unfinished as finished.

²⁴¹ All millstones, grindstones, &c. are classed alike. The wooden frame, and its metal parts, of a grindstone, would be taxed separately with *manufactures in wood, not named*.

Note.	ROCKS AND EARTHS USED FOR ARTS AND MANUFACTURES.	Unit of Taxation.	General (4 % added).
	[<i>Treaty Tariff, see the Note.</i>]	100 kilogrammes.	<i>a. b. c.</i>
242	Chalk , whitening, Spanish white - -	gross	exempt.
243	Sand for glass making and fayence - -	"	exempt.
244	Hones :		
	rough - - - - -	"	exempt.
	cut - - - - -	"	6 00
245	Carbonate of Barytes - - -	"	exempt.
246	Natural phosphates. See 261.		
247	Spar , including sulphate of barytes. 248. Castina (flux). 249. Gun and other flints. 250. Pipe clay. 251. Rotten-stone (Tripoli). 252. Groison. 253. Pumice stone. 254. Touch-stone. 255. Talc , crude en masse.	"	exempt.
256	Ferruginous stones :		
	Emery, in rough pieces - - -	"	0 60
	" prepared in grain or powder -	"	9 60
	other ferruginous stones. 257. Porcelain Clay. 258. Flints for fayence and porcelain. 259. Armenian bole , and Lemnos earth. 260. Ochres. 261. Species not mentioned.	"	exempt.

The Treaty Tariff refers classes 242 to 261 to the General Tariff.

²⁴² The class includes, without distinction, rough pieces, pulverised, washed, sifted, and concreted in lumps, or cut into pencils, or otherwise prepared; also pencils moulded of white aluminous earths.

²⁴³ The class includes *facing sand* used in the manufacture of cobalt blue.

²⁴⁴ Hones (*cf.* 241).

²⁴⁵ The class includes the *artificial* carbonate of barytes.

²⁴⁶ Phosphate of lime is the only important article in this class. Prepared with sulphuric acid it becomes *superphosphate of lime*, and is classed with *manures* (48). Artificial phosphates are classed as *chemicals*.

²⁴⁷ A number of fibrous iridescent minerals are improperly called *spar*. The class includes only, — Fluor spar, Iceland spar, cryolithe, and heavy spar (sulphate of barytes), to which are added strontianite and celestine (the carbonate and sulphate of strontium). Other minerals introduced as *spar* would be referred to experts.

²⁴⁸ The class includes aluminous or clay flux.

²⁴⁹ Uncut flints, rough silex, are classed with *flints for pottery*.

²⁵⁰ A chalky stone used in the preparation of parchment.

²⁵¹ Includes artificial pumice-stone.

²⁵² Pulverised talc is classed with *colours*. The class includes soapstone.

²⁵³ The class includes — 1, bloodstone, *crude*, and hematite. *Out* bloodstone (for burnishing) is classed with *pencils*; 2, "nigrine" (a black iron ore, in fine powder, used for polishing metals; 3, lead-stone; 4, eaglestone (*actites*)).

²⁵⁴ The class includes the green earths of Verona and Cyprus. Calcined are classed as *crude*, but pulverised or pounded in water, oil, or gums, or otherwise prepared for painting, are classed as *colours*.

²⁵⁵ The class includes meerschaum (real or false); mica (objects made of mica are classed with *merceries*); magnesium earths; filtering stones; asbestos; aluminous earths which contain less than 80 % of alum (*cf.* Note 397); wolfram (or tungstate of iron); coloured sand for office use; rubbish from the potteries; a preparation of iron slays, used for conserving heat in pipes and generators; other preparations of cements and clays for the same purpose; bath bricks; fuller's earth; slaty potter's clay; and, in general, all other clays not specially tariffed, &c.

²⁵⁶ Includes all the limes of commerce: quick lime or slacked lime, fat or white lime, messer- or brown, and water lime; also beton (concrete), mortars, and cements for building. Pure caustic lime (*protoxide of calcium*) is classed with *chemicals*. Shell-fish, calcined, pulverised, or ground, are in (262).

²⁵⁷ Includes stucco; also powdered plaster prepared for woven goods.

Note.	BUILDING MATERIALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
		100 kilogrammes.		<i>a. b. c.</i>
262	Lime. 263. Gypsum or plaster -	gross	exempt	exempt.
264	Slates :			
	for building, rough - -	"	exempt	exempt.
	for roofing - - -	mille.	4 00	4 00
	in squares or slabs - -	100	exempt	10 00
	for writing or drawing, in frames	gross	} 8 75	same duties as slates in slabs.
	or not - - -	or 5% ad val.		
265	Bricks - - -	gross	exempt	—
266	Tiles :	mille.	—	4 80
	flat (may be grooved) - -	"	exempt	4 80
	arched or undulated - -	"	exempt	12 00
	ridge tiles - - -	"	exempt	30 00
267	Earthen tiles (for flooring, &c.) -	"	exempt	12 00
268	Common sand for building and metallurgy, ashlar, and fragments of stones, sandstone and other paving stones.	gross	—	exempt.
	Building stones , rough - -	"	exempt	exempt.
269	Building materials not mentioned -	"	—	exempt.
	Marl - - -	"	—	exempt.
	Sulphur , not purified (including the mineral), purified, or sublimated.	"	exempt	exempt.
272	Bitumen , of all kinds, solid and other	"	exempt	exempt.
273	Coal or coke - - -	"	0 12	0 12
	Ashes thereof - - -	"	—	0 12
274	Graphite or plumbago - -	"	exempt	exempt.
275	Jet. 276. Yellow Amber.	"	—	exempt.

²⁶⁴ Slates merely squared, cut or sawn, are classed as *rough*. *Roofing* slates are distinguished from *slabs* by their thickness, which must be such that they can be cut or perforated by a tiler's hammer. The *slabs* are for billiard tables, and other uses. Slates framed for writing are classed with *slabs*.

²⁶⁵ Small fine bricks for paving rooms are classed with *earthen tiles* (cf. 261).

²⁶⁶ Drain pipes are exempt by the Treaties; the General Tariff classed them with *arched tiles*, and their taxation is calculated 60 centimes per 100 kilos. See also *pottery*.

²⁶⁷ Compare (486), (265). The class includes paving tiles, mosaics or other, which are plain, monochrome, or if of several colours, still made by mere moulding of coloured clays without hand work; but tiles of white clay, enamelled white or in colours, are "*fayence fine*."

²⁷⁰ All mineral substances not specially tariffed, and serviceable as manures, are in this class. See Note 43.

²⁷¹ The class includes iron pyrites.

²⁷² The class includes *only*—1, asphaltum; 2, maltha, or mineral pitch; 3, the bituminous shales. Also ozokerit crude or partly purified, which, when completely purified, is classed with *stearic acid* (see 340). Any other products imported as *bitumens* would be referred to the authorities for classification.

²⁷³ In estimating imports of coal and coke by sea, it is calculated that a ton measurement carries 1,500 kilos. of coal, or 1,000 kilos. of coke; but the importer is bound to make a complete declaration of the real weight of his cargo.

²⁷⁵ *Jet* manufactured is classed as *mercery*; set in gold or silver or other metal, gilt, it is *jewellery*.

ROCKS, EARTHS, AND COMBUSTIBLE MINERALS (pp. 46, 47).

Note.
277**Petroleum and other mineral illuminating oils:—****DEFINITIONS.**—**Crude oils:** petroleum and other earth oils, in a natural state, and as obtained by a *first* distillation of the minerals.**Lamp oils:** oils rectified or refined, which register at *least* 800° on the densimètre (at a temperature of 15° C=59° F).**Essences:** oils rectified or refined, registering (as above) 700° or *less*.**1. Treaty Tariff.**

<i>Oil produced and imported by a contracting country.</i>	Unit of Taxation.	Treaty (Net).
crude oil: and lamp oils and essences distilled in the same country and (additional "taxe intérieur")	ad val.	5%
crude oil , by analysis, for the lamp oil it contains	1 kilo.	0 23
essence		0 23
lamp oil , at 800° or more "	100 k. n.	34 50
with addition for every degree below 800°		0 10
essence		44 50
<i>Oils not produced, &c. as above.</i>		
crude (conditions of the General Tariff)		
lamp oil , distilled in and imported from a contracting country.	"	37 00
with addition for every degree below 800°	"	0 10
essences , distilled and imported as above	"	47 00

2. General Tariff.*For indirect import add 5 frs. per 100 kilos.
net of oil.*

		General (Net), direct import.
Crude oils , by analysis, for the lamp oil they contain	1 kilo.	0 30
essence	"	0 40
Lamp oils and essences , distilled or refined in the producing country (conditions of the Treaty Tariff).		
Other lamp oils and essences , (taxed as "indirect import" i.e., add 5 frs. to the Treaty Tariff).		

²⁷⁷ The class includes all *bitumens* naturally *fluid*, and all oils obtained by distillation of bituminous shales and similar minerals. The registration of density is taken at the temperature of 15° Centigrade (=59 Fahrenheit). Crude American petroleum is thus found to mark an average of 800°; boghead oil, in a crude state, from 850° to 860°, or even more; oil of French shales, crude, from 890° to 900°.

Taxation is entirely regulated by density. All oils below 700° are classed as *essences*, all above 800° as *lamp oils*.

In **TESTING**, the practice is to disregard the quantity of *essence* (generally insignificant) contained in crude shale oil and boghead oil. Crude petroleum is assumed to contain 78% of illuminating oil, and the proportion of *essence*, ascertained by distillation, is deducted from 78 and the remainder taxed as *lamp-oil*. This practice only applies to French shale oils, Scotch boghead oils, and American petroleum, which are generally normal. The proportion of *essence* in petroleum from the United States averages 15%, if it varies below 13% or above 18% the oil is suspected to be a compound, samples are then taken and submitted to experts, pending whose decision the goods are restrained (*see the note*). All mixtures, in such cases, are taxed as a whole, at the rate of their most heavily taxed ingredient. The regulations for determining the *nationality* of importations are sufficiently explained in the tables.

Heavy oils and other *residues* from the distilleries of contracting countries, containing no more lamp oil nor *essence*, are exempt from the "taxe intérieur," but only if imported direct from the refining country, and produced from oils native to that country.

The importation of this class is *restricted* to special offices, where the necessary instruments are kept for testing.

Note.	278. METALS (pp. 48, 49).	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European products imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilo-grammes.		a. b. c. for d. add 3 frs. per 100 kilos.
279	Gold and platinum ore - - -	gross	—	exempt.
	crude in lumps, ingots, bars, dust, broken ornaments, &c.	net	—	10 00
280	hammered, in leaf* - -	"	2500 00	2500 00
281	drawn, rolled, or wire* - -	"	—	500 00
279	Silver ore - - - -	gross	—	exempt.
	crude in lumps, ingots, &c. -	net	—	1 00
280	hammered, in leaf* - -	"	2000 00	2000 00
281	drawn, rolled, or wire* - -	"	—	500 00
282	Goldsmith's dross - -	gross	—	exempt.
283	Aluminium :*			
	crude - - - -	ad val.	10 %.	36 %.
	drawn, rolled, or wire - -	same duties as silver.		

²⁷⁸ Filings and borings not specially tariffed follow the rule of the ores of the metals they are derived from.

²⁷⁹ The ores of gold, silver, and platinum are only classed as such in their natural state, mixed with their stulls, &c. All ore that has been washed, gold dust for instance, or prepared in any way, and native gold, silver, and platinum, in any shape, are treated as *crude metals* of their kind. Gold and silver in shells, or powder, prepared for illuminating are classed with *colours* [cf. Note 440]. Spongy platinum is classed with the *crude metal*, not with the ore. Certain metals of unusual value, such as barium, cerium, caesium, indium, iridium, lithium, niobium, osmium, palladium, rhodium, rubidium, ruthenium, strontium, vanadium, are classed with *gold* and *platinum*. Refuse from platinum, from which some of the above metals are extracted, is classed with *platinum ore*. Fragments are classed with their *crude metals*. Ingots of gold and silver imported for the public treasury are not taxed, but must be included in the statistical returns.

²⁸⁰ The paper in goldbeaters' skin is charged only with the "*taxe intérieure*" on paper. The class includes gold sponge as prepared for dentistry.

²⁸¹ The class is for wire, flattened wire, spangles, tinsels, purls, silver wires (including gavette), gold wire, and platinum wire, and gold and silver spun on thread or silk; also silk thread gilded with gold leaf.

²⁸² By *goldsmith's dross* are meant sweepings, finery cinders, and slag, dust, &c., and generally all the waste from goldsmiths' work or coining. The class includes scales of gilded woods, residue deposited from baths of gold and silver exhausted, and gold and silver deposits got from the wastes of gilding or electro-plating.

²⁸³ *Aluminium* is classed with the metals by reason of its uses for arts and manufactures. It is in fact a *chemical compound*, and is so classed in the Treaties. Crude aluminium, however, is excepted from the prohibition that applies to chemical compounds in the General Tariff, and taxed 36 % ad valorem. Aluminium bronze, and other alloys are classed as pure. Manufactured aluminium is dealt with as *silver* in the same stages.

Note.	METALS.	Unit of Taxation.	—
	1. <i>By Treaty Tariff.</i>	100 kilo-grammes.	
285	Iron ore - - - - -	gross	exempt.
286	Cast iron* (<i>fonte</i>) :		
	pig iron and fragments for ballast - - -	„	2 00
	purified, called "mazée" - - -	„	2 75
287	Iron (<i>étiré</i>), rolled,† &c. :		
288	bars, square, round, or flat - - -	„	6 00
289	angle and tee iron - - - - -	„	6 00
290	hoops :		
	more than a millimetre thick (19 wire gauge) - - -	„	6 00
	not " " (thin hoop) - - -	„	7 50
291	rails, of all shapes and dimensions - - -	„	6 00
	Iron (<i>fer</i>) :		
292	crude, in lumps not freed from the dross† - - -	„	4 50

²⁸⁵ IRON.—The several classes under this heading include with iron and iron ore, *pig iron (fonte)*, (compare Note 286), *steel, sheet and plate iron, tinplates, &c.* Iron bars containing steel are classed as *steel in bars*. Most of this class is admitted to TEMPORARY IMPORTATION free, under conditions detailed in O.P. [198].

²⁸⁷ Blast furnace cinder is classed as *ore*. Turnings that pass through sieve-meshes of five millimetres are classed as *slings*, larger as *scrap iron*.

²⁸⁸ *Fonte* (*pig iron*) is the produce of melting in the blast furnace; *crude* is the first melting; *maade*, or *pig refined by the styrian process*, is twice melted with blast air, in fires of charcoal coke. The regulation of the General Tariff restricting importation to masses of 15 kilogrammes is not strictly insisted on. *Spongy iron* of all kinds is classed as *crude pig iron*, for *scrap iron* see [290]. For ship's ballast cf. Note [667].

²⁸⁷ *Étiré* includes iron drawn under the hammer or between rollers. The two kinds are distinguished in the rules affecting TEMPORARY IMPORTATION.

²⁸⁹ Includes bars of all shapes in the Treaty Tariff. In the General Tariff pentagonal, hexagonal, &c. bars are classed with *square*; and bars, flat or concave on one side and convex on the other, with *rounded*. Bars of galvanised iron are not distinguished. The class includes; 1. Blades of iron and steel prepared for the manufacture of cloth shears; but if these are *manufactured*, even without their thumb rings, they are classed as *tools*. 2. Anvil plates. The General Tariff ranges these two classes with *flat bars of 213 to 467 mm.* 3. Irons for plough shares (in the General Tariff *flat bars of 468 mm. or more*). 4. Irons for plough shares shaped under the forge hammer (in the General Tariff *rounded bars* according to their thickness at the narrowest part). In the Treaty Tariff these four kinds are all taxed alike [289]. *Tires*, rolled or hammered, and cut to lengths or welded, but neither broached nor turned, are *iron bars*; but welded and chiselled are either *heavy iron wares*, or *detached pieces of machinery*, broached or turned and finished, they are *detached pieces of machinery*.

²⁹⁰ This class is only mentioned in the Treaty Tariff. In the General Tariff they are classed with *bars*, according to their shape (see Note 288). The class includes H-iron, oven bored; but curved, or complicated, pieces are *iron framing*.

²⁹¹ Hoops of thin iron cut with the chisel are classed with *this plates*. Flattened iron wires, imported in "crowns" for manufacture of cogs of wheels, and above five-tenths of a millimetre thick, are in this class; but if they were cut into lengths they would be taxed as *cogs of wheels*.

²⁹² Balls partly planed, &c. for junctions are classed as *heavy iron wares*, those simply bored for the bolts are *rails*. Fish plates for rails are classed as *rails*, unless they are shaped, &c. by the planing machine, when they are *heavy iron wares*. In either case the bolts and screws imported with them would be referred to their proper class. In the General Tariff all rails are taxed, according to their dimensions, as *bar iron*.

Note.	METALS.	Unit of Taxation.	Treaty (net).
	Iron (fer)—continued.	100 kilo-	
293	sheets* and plates* : rolled or hammered, smooth, <i>more than one millimetre thick</i> (18 wire gauge and above), not cut. cut to any shape - thin, and black iron plate, smooth, <i>not more than a millimetre thick</i> (19 wire gauge and under), not cut. cut to any shape -	gross " " net	7 50 8 25 10 00 11 00
294	tinned, coppered, covered with zinc or lead†	"	13 00
295	wire, tinned, &c. (as above), or not* : <i>not more than five-tenths of a millimetre diameter</i> - more " " " -	gross "	10 00 6 00
296	steel* :		
297	in bars of all kinds, and hoop -	"	9 00
298	sheets or coils : brown, rolled hot, <i>more than half a millimetre thick</i> - white, rolled cold, <i>not any thickness</i> -	net " "	11 25 15 00 15 00
299	wire (including strings for instruments) -	"	20 00
285	filings and scales -	gross	exempt.
300	scrap iron :* of wrought-iron manufacture - of cast-iron manufacture -	" " "	2 75 2 00
301	shales and slag -	"	exempt.

* Pieces of 20 to 30 centimetres breadth, and less than 5 millimetres thickness are				sheet iron.
50 to 40	"	"	5 or more	bar iron.
"	"	"	less than 6	sheet iron.
"	"	"	6 or more	bar iron.
40 to 50	"	"	less than 7	sheet iron.
"	"	"	7 or more	bar iron.
50 to 60	"	"	less than 8	sheet iron.
"	"	"	8 or more	bar iron.
more than 60	"	"	any thickness -	sheet iron.

Flat bars are either hammered or rolled between grooved cylinders; *plates and hoops* are rolled in plain cylinders, hence the latter are known by being more flat and rectangular. Iron plate bored is classed as *cut*, but not strips simply cut from larger sheets.

By the Treaty Tariff. 1. *Galvanised plates*, more than a millimetre thick, are treated as *iron plates*, thinner as *tin plates* [294]. 2. *Plates adjusted*, or prepared to be adjusted, and more than a millimetre thick, are taxed as *gasometers, boilers, &c. of iron plate*, or, if they are thinner and are *galvanised*, as *tin plates* [294], or, if thinner and *not galvanised*, as *iron plates cut* [298]. By the General Tariff (2), *galvanised* or *not*, are treated as *manufactures in iron plate*, and (1), as in the Treaty rule above.

* The class can only be imported at the principal offices. The legal tare of 12% is only allowed to goods in solid cases of ordinary strength and thickness; in open boxes the tare is only 5%. The tin boxes in which this metal is sometimes imported are taxed as *manufactures* by the Treaty, and as *tin* by the General Tariff. The same rules apply to the other articles in this class. Plates varnished, painted, and ornamented are left in this class.

* The class only includes iron that has passed through the drawbench, excluding rolled wire. Iron wires covered with cotton or silk (for bonnets) are in this class. The diameter of irregular wire is found by multiplying the breadth and thickness, expressed in tenths of a millimetre, together.

* Steel may be known from iron by touching them with nitric acid, which blackens the steel and stains iron a pale green.

* The class includes iron bars containing steel, steel rails, steel forgings and steel castings, and scrap steel, excluding planings of steel plate, which are classed as *scrap iron*. Ploughshares and breasts or earth boards of ploughs simply hammered into rough shape are also included. *Tires* are subject to the same rules as *iron tires* [see Note 298]. Broken fragments of sword blades imported for paring knives are in this class.

* The Treaty Tariff includes in this class:—1. Steel springs of all kinds for watchmaking, petticoat frames, &c. 2. Steel sheets imported to make pens from. 3. Sheets or discs of steel intended for saw blades, &c. But the coils must not have been shaped nor the discs polished nor toothed nor sharpened, &c. or they would be classed either as *tools*, or as *parts of machinery*, compare Notes [596] [633]. In the General Tariff sheets or coils, polished, blued, or tempered are in *watchmakers' materials*, and the saw blades are classed as *saws*. Steel springs covered for petticoats are kept in this class and taxed for their whole weight.

* Includes only the wire drawn at the draw bench. Rolled steel wire is classed with *steel bars*. The class includes wire which has been both drawn and rolled, and drawn iron wire converted into steel; also pinion wire and screw steel for watch making; and the straight rods of tempered steel, grooved or not, imported for making umbrella ribs. Wire brushes are also in this class under the General Tariff. Under the Treaty Tariff they are classed as *manufactures*.

Note.	METALS.	Unit of Taxation.	--	General (4 % added).
	<p>The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European products imported direct from any place out of Europe; (d.) on the same imported from European ports.</p> <p>2. By General Tariff.</p>			
		100 kilogrammes.	a. b. c.	d.
285	Iron ore - - -	gross	exempt	3 00
286	Cast iron* (fonte):			
	crude, in pieces of not less than 15 kilogrammes each.	"	4 80	7 80
	purified, called mazée, in pieces of not less than 15 kilogrammes.	"	8 40	11 40
	of any other kind -	—	prohibited.	
287	Rolled, &c.† (étiré) iron:			
288	in flat bars:			
	of (breadth multiplied by thickness):			
	468 millimetres or more -	net	12 00	15 00
	213 " to 467 " -	"	14 40	17 40
	less than 213 millimetres -	"	16 80	19 80
	in square bars:			
	of 22 millimetres or more, on each face -	"	12 00	15 00
	" 15 to 21 millimetres " -	"	14 40	17 40
	" less than 15 " " -	"	16 80	19 80
	in round bars:			
	of 15 millimetres or more, diameter -	"	14 40	17 40
	" less than 15 millimetres " -	"	16 80	19 80
291	in grooved bars, called "rails" -	—	See the Note [291].	
292	Forged iron, in blooms or prisms -	gross	prohibited.	
	Rolled (platiné ou laminé):			
293	black, iron plate* -	net	24 00	27 00
294	tinned, coppered, covered with zinc or lead†.	"	48 00	51 00
295	Wire-drawn:*			
	iron wire, and covered with other metals.	"	36 00	39 00
	white metal cords for instruments -	"	84 00	87 00
296	Steel bars of every kind -	"	36 00	39 00
297	rolled, ordinary sheets -	"	60 00	63 00
	coils or sheets, white or brown:			
	neither polished nor tempered:			
	more than a millimetre thick -	"	60 00	63 00
	not			
	15 centimetres or more broad -	"	90 00	96 00
	less than 15 centimetres " -	"	132 00	135 00
	polished, blued, tempered or not, coils or flat (not saws).	"	600 00	603 00
299	wire, including strings for instruments.	"	84 00	87 00
285	Filings and scales -	gross	exempt	3 00
300	Scrap iron:*			
	of wrought iron manufactures -	"	9 60	12 60
	of cast iron " -	"	4 80	7 80
301	Shales - - -	"	0 96	3 96

For angle iron, see Treaty Tariff.

* Compare notes 297, 298, &c.

† The slag must not contain more than one fifth of iron [cf. Note 285].

Note.	278. METALS (pp. 52, 53).	Unit of Taxation.	Treaty (net).
302	1. <i>By Treaty Tariff.</i>	100 kilo-grammes.	
303	Copper ore - - - - -	—	exempt.
	Copper :		
	pure or alloyed with zinc or tin*	—	
304	first fusion : lumps, bars, pigs, or sheet	—	exempt.
305	rolled or hammered : bars or plate	gross	10 00
306	wire of all dimensions	"	10 00
307	Copper, gilt or silvered : in lumps or ingots, tilted, drawn, rolled, or spun on yarn or silk*.	"	100 00
308	Copper filings* and fragments of manufactures*	—	exempt.
	2. <i>By General Tariff (add 4 °/o.)</i>		a. b. c. for d. add 3 frs.
303	Copper ore - - - - -	—	exempt.
	Copper, pure* - - - - -	—	
304	first fusion : lumps, bars, or sheet	—	exempt.
305	rolled or hammered : bars or plate	net	15 00
306	wire, tinted yellow, imitation of gilt	"	100 00
	" not tinted - - - - -	"	120 00
	Yellow-brass :*		
304	first fusion : in lumps, bars, or sheet	—	exempt.
305	rolled or hammered, in bars or plate	net	15 00
306	wire :—		
	polished, for stringed instruments	"	120 00
	" other - - - - -	—	prohibited.
	unpolished - - - - -	net	120 00
	for embroidery - - - - -	"	100 00
304	Copper alloyed with tin,* first fusion, in lumps, bars, or sheet.	—	exempt.
307	Copper, gilt or silvered, in lumps or ingots, tilted, drawn, rolled, or spun on yarn or silk.*	net	100 00
308	Copper filings* and fragments of manufactures	—	exempt.

* For alloys of copper with aluminium or nickel, see notes 283 and 321. Copper alloyed with one third of zinc is *brass*; with 10 % of tin, it is *gun metal*; with one fourth of tin, it is bell metal; with one twentieth of tin, it is *brassé*, &c. Other alloys of *copper* and *zinc*, resembling gold (tombac, similor, pinchbeck, Mannheim gold, chrysocale (92 to 8), &c.) are classed in the General Tariff with *copper gilt*, and in the Treaty Tariff with *brassé*.

The class includes the native copper, copper pyrites, &c., and all intermediary stages of copper between the ore and the first fusion, as coarse metal, and slag, and roasted metal. For *malachite*, see [234]. Includes symmetrical sheet and bars fit for rolling, when they are the produce of the first fusion; also, 1, planks for coins and medals when their destination is proved, otherwise they are classed with *rolled copper*; 2, cylinders of red copper intended to be prepared for engraving, not further prepared than by casting, trimming, and boring; 3, copper plates of the first fusion merely trimmed, in semi-cylinder form, for singeing woven fabrics. Bronze in powder is classed with *colours not named*.

(3) above are admitted to TEMPORARY IMPORTATION free.

The class includes copper for ships, forged bars, &c.; also thick leaves of Dutch metal (cf. 280); also, 1, boiler, &c., bottoms not finished nor bordered; 2, also rough plates for clock dials; 3, plates for verdigris; 4, large nails or bolts. The above are placed, by the TREATIES, among *manufactures*, but the importer may always select the conditions of the General Tariff when they favour him.

Includes disused coins imported for recoinage (cf. Note 597) fragments gilt or silvered are (307).

Includes all lead ores (galena, &c.); also argentiferous lead ore, slag and sulphate of lead, and mattes.

Lumps and pigs are admitted to TEMPORARY IMPORTATION free.

When the alloy of antimony is below 10 %, the metal is classed as *crude lead*.

Includes sheet lead, smoothed or varnished, and tinsel.

Note.	METALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
		100 kilo-grammes.		a. b. c.
309	Lead :			
310	ore and slag of every sort -	—	exempt	exempt.
311	in crude lumps, pigs, bars, or sheets	—	exempt	exempt.
312	alloyed with antimony, in lumps* -	gross	3 00	31 20
313	hammered or rolled* -	"	3 00	28 80
	filings, and broken up pieces -	—	exempt	exempt.
314	Tin :			
	ore - - - -	—	exempt	exempt.
315	in crude lumps, block tin, bars, or sheets.	—	exempt	exempt.
316	alloyed with antimony in ingots* -	gross	5 00	See Note.
	pure or alloyed, hammered or rolled* -	"	6 00	72 00
	filings, and broken up pieces -	—	exempt	exempt.
317	Bismuth - - - -	—	exempt	exempt.
	Zinc :			
318	ore, crude or roasted, or pulverised	—	exempt	exempt.
319	in crude lumps, blocks, bars, or sheets	—	exempt	exempt.
320	rolled* - - - -	gross	4 00	60 00
	filings, and broken up pieces -	—	exempt	exempt.
	Nickel :			
321	ore - - - -	—	exempt	See [333]
	regulus, speiss - - - -	—	exempt	exempt.
	pure or alloyed, in ingots or crude lumps.	—	exempt	exempt.
	" hammered, rolled, or drawn.*	gross	10 00	120 00 (N).
	Antimony :			
322	ore - - - -	—	exempt	exempt.
324	grey ore, smelted - - - -	gross	exempt	1 20
325	regulus* metallic - - - -	"	6 00	31 20 (N).
	Cobalt :			
326	ore - - - -	—	—	exempt.
327	azure blue,* - - - -	—	exempt	See [496]
328	smalt* - - - -	net	exempt	36 00
329	Cadmium, crude - - - -	gross	exempt	2 40
330	Arsenic, ore, metallic - - - -	—	exempt	exempt.
331	Mercury, native - - - -	—	exempt	exempt.
332	Manganese, ore - - - -	—	exempt	exempt.
333	Ores not mentioned - - - -	—	exempt	exempt.

³²³ For alloys of copper and tin, see 304. Planks for medals, and sheet tin smoothed or varnished are taxed as *hammered tin*. Filings, &c. are classed as crude [cf. Note 300]. Tin pulverised for painting is classed with colours [cf. 449]. Block tin is admitted to TEMPORARY IMPORTATION free, see O.P. 198.

³²⁴ For the difference between Britannia metal and Argentan, see Note 655. Tin containing less than 10 % alloy of antimony is classed as *pure tin*.

³²⁵ For the alloys of copper and zinc, see (323) and (307).

³²⁶ The class includes pulverised zinc, broken up pieces (consult Note 300). Blocks of tin are admitted to TEMPORARY IMPORTATION free.

³²⁷ Zinc wire is classed as *rolled*; also, in the General Tariff, zinc nails for coppering ship's bottoms, but these, in the Treaty Tariff, are taxed as *manufactures*.

³²⁸ For arsenic acid, arsenious acid, arsenites, &c., see *chemicals*.

³²⁹ Oxides and salts of mercury are *chemicals*. Mercurial preparations are prohibited as *medicines not mentioned*.

MANUFACTURES.

Note.	CHEMICALS (pp. 56, 57).	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilogrammes.		for d. add 3 frs. per 100 kilos.
334	Bromine* - - - -	net	exempt	a. b. c. 48 00
335	Iodine , crude or refined - -	"	exempt	600 00
336	Phosphorus :*			
	white - - - -	"	40 00	} prohibited.
	red, amorphous - - - -	ad val.	10 %	
337	ACIDS.			
338	Arsenious - - - -	gross	} exempt	1 20
339	Benzoic - - - -	"		a. b. d. c. 3 00 exempt
340	Boracic* - - - -	"		a. b. c. 0 30
341	Citric :*			
	fluid, net above 35° - - - -	"	} exempt	1 20
	" above 35° - - - -	net		180 00
	crystallized - - - -	"		180 00
342	Gallic - - - -	—		prohibited.
343	Hydrochloric (muriatic) - -	gross	0 90 (a)	0 30
344	Nitro-muriatic (aqua regia) -	net	5 % ad val.	49 20
345	Nitric* (aqua fortis) - - -	"	exempt	108 72
346	Oleic - - - -	gross	5 00 (a)	exempt.
347	Oxalic* - - - - { [Treaty] [General]	gross net	10 00	84 00
348	Phosphoric - - - -	net	5 %	{ 49 20 5 %
349	Stearic - - - -	ad val.	ad val.	
350	Sulphuric* - - - -	net	exempt	
351	Tartaric* - - - -	"	exempt	84 00

³³⁴ Crude iodine from Chili is distinguishable from English produce by the presence of *lead* in it. *Iodine* is admissible to TEMPORARY IMPORTATIONS free.

³³⁶ The vessels and the liquid in which *phosphorus* is imported are not included in the weight for taxation.

³³⁸ Importers of *arsenious acid* (white arsenic) must obtain at the Customs a discharge stating the quantity and the name and residence of the consignee. This discharge must be returned, within three months, with a certificate of delivery from the local municipal authorities under a penalty of 500 francs more than the value of the goods.

³⁴² In the General Tariff *benzoic acid* is classed with *benzoins*.

³⁴³ Barberry juice (used to give a gloss to skins dyed black) is classed with *citric acid*.

³⁴⁶ *Oleic acid* always contains a certain quantity of stearic and margaric acids; when the proportion of the latter is greater than usual the product is taxed as *stearic acid*.

³⁵⁰ *Stearic* and *margaric acids* are classed together, being seldom found apart in commerce (cf. Note 346). The class includes:—1, *paraffins* (solid), crude, or purified; 2, *osokerite*, or the mineral wax of Moldavia, thoroughly purified (which, crude or partly purified, is taxed as a *bitumen*) (see Note 272). The import of stearic acid, and of stearic acid mixed with wax or with crude oleic acid, is subject to stringent regulations assuring its delivery to licensed manufacturers or merchants. Paraffine, osokerite, wax, spermaceti, are exempt from these special regulations. Special rules affect the TEMPORARY IMPORT and the RE-EXPORT and TRANSIT of this class of goods.

(a) The importer may select the General Tariff.

Note.	CHEMICALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
352	OXYDES (pp. 58, 59).	100 kilo-		<i>a. b. c.</i>
353	Of Cobalt :	grammes.		for <i>d.</i> add 3 frs.
	pure - - - -	gross	} exempt	exempt.
	silicious - - -	"		
354	Of Copper - - -	"		
355	Of Tin - - - -	"		
356	Of Iron - - - -	"	2 00 (<i>a</i>)	exempt.
357	Of Lead - - - -	"		
358	Of Uranium - - -	"		
359	Of Zinc :			
	(zinc white) - - -	"	2 00 (<i>a</i>)	exempt.
	grey - - - -	"	exempt	exempt.
360	Potash :*			<i>a. c.</i>
	direct import - - -	—	exempt	exempt.
	indirect - - - -	net	2 40	<i>b. c. d.</i> 2 40 3 00
361	Vegetable ashes - - -	—	exempt	<i>a. b. c.</i> exempt.
362	Salt of beetroot*	gross	0 10	See Note.
363	Soda of Varech* (kelp) - - -	"	0 15	31 80
364	Caustic soda* - - -	"	6 40	prohibited.
365	Carbonate of soda :*			
	crude, 30° or more - - -	"	1 90	} 31 80
	" less than 30° - - -	"	5 85	
	refined, soda salt, 60° or more - - -	"	4 10	
	" " less than 60° - - -	net	14 00	
	" crystals - - - -	gross	1 90	22 80

³⁵² Natural *oxydes of iron*, which are always mixed with earthy substances, are classed as *iron ore*, or *ferrous rocks*, or *ochres*. The class includes the peroxides of iron called in trade Van Dyk brown and Van Dyk red; (Van Dyk brown, properly so-called, is classed with *colours not mentioned*), also polishing powders composed of oxyde of iron and silic.

³⁵³ Admissible, for manufacture of prussiate of potash, to TEMPORARY IMPORTATION, free.

³⁶¹ Ashes of turf are classed with *manures*, those of coal are specially tariffed.

³⁶² Is classed in the General Tariff with *crude soda*.

³⁶³ Is the product of burning certain sea-weeds. It consists chiefly of sea-salt, chloride of potash, and sulphate of potash, and contains besides a little carbonate of soda and iodide of potash. It is used in the manufacture of ordinary bottles, and of saltpetre, and especially for the extraction of iodine. *Crude* registers 4° to 5° on the alkalimeter, *refined* only 2° to 3°.

³⁶⁴ This is the ordinary soda of commerce purged of its carbonic acid by lime.

³⁶⁵ This class is of the ordinary sodas of commerce, which are *carbonate of soda*, always mixed in the *crude sodas* with other salts of soda and impurities. *Natural soda* is got by incineration of the barilla and other seaside plants, (*salsola sativa*, *s. soda*, and *s. kali*, and *salicornia annua*). It is only made in Spain. *Artificial soda* is prepared by the decomposition of sea-salt. It registers from 18 to 24 degrees on the alkalimeter. The anhydrous carbonate, pure or nearly so, is designated *soda salt*. *Soda salt* can be distinguished from the *crude soda* by its complete solubility in water, and both from *potash* by their not absorbing moisture from the air as potash does. *Soda salt* generally registers 26° to 30°. Dissolved in water and evaporated it produces *carbonate of soda, pure and crystallised*. The *crystals* register about 36°. Carbonate crystallised and pulverised is classed as *crystals*. To distinguish it from *soda salt*, burn a spoonful over a flame. The *crystals* produce vapour, the *soda salt* none. 1. A Belgian composition of soda salt for bleaching, called "*pourboirine*," is classed with *soda salt of less than 60°*. 2. Fluid and solid compounds of carbonate of soda for preserving boilers, called *antituberc* and *anticorrosive waters*, are classed with *crystals*.

(a) The importer may select the General Tariff.

Note.	CHEMICALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.			
		100 kilo-grammes.		a. b. c. for d. add 3 frs.
366	Natron* - - - -	gross	1 90	3 00
367	Bicarbonate of soda* - -	"	4 20	} prohibited.
368	Salts of soda, not mentioned* -	"	3 50	
369	Sea salt, brine salt, rock salt, pp. 60, 61 :			
	crude or refined, other than white :			
	by the Belgian frontier* -	"		2 40
	by other land frontiers* -	"		0 60
	by sea from Senegal, &c.**	"	con-	exempt.
	by channel and ocean ports*	"	ditions	2 10
	by Mediterranean ports* -	"	of the	0 50
	refined, white :		General	
	by the Belgian frontier* -	"	Tariff.	3 30
	by other land frontiers* -	"		0 60
	by sea from Senegal, &c.**	"		exempt.
	by channel and ocean ports*	"		3 30
	by Mediterranean ports* -	"		0 60
370	Sal ammoniac* - [Treaty]	ad val.	5 %	—
	and per 100 kilogrammes -	gross	3 00	—
	Other salts of ammonia,* crude	ad val.	5 %	—
	or refined - [Treaty]			
370	Salts of ammonia :* [General]			
	crude, powders - - -	net	—	60 00
	refined, in cakes - -	"	—	120 00

³⁶⁶ This is a carbonate of soda which forms naturally in certain lakes. It is mixed with sulphate of soda and with chloride of sodium. The French supply of it comes chiefly from Egypt. It registers from 40° to 50° alkali.

³⁶⁷ Is distinguished from *carbonate of soda* by being about five times less soluble in water, is not efflorescent, and gives no precipitate when it is treated with sulphate of magnesia. The class includes mixtures of *bicarbonate of soda* with tartaric acid (used for yeast).

³⁶⁸ 1. Chloride of sodium (salt) is subject to the General Tariff [369]. 2. Bisulphate and bisulphite of soda are classed with *sulphate* [403] and *sulphite* [405] of soda. 3. Borax, borate of soda, half refined or refined, is classed with *chemicals not mentioned*. The class includes for the Treaty Tariff arseniate, benzoate, bromate, phosphate, hypophosphite, and stannate of soda.

³⁶⁹ *Salts* are only classed as refined which have been prepared by fire. INTERNAL TAX "DE CONSOMMATION." 10 francs per 100 kilogrammes in France, 7.50 in Corsica on the *net* weight, from which French produce is allowed a variable discount. The class includes all produce containing salt, pure or mixed, fluid or solid (leach brine, sels de coussins, resels, complex salts containing chloride of sodium, &c.), which are not elsewhere classified in the Tariffs. EXEMPTIONS AND ALLOWANCES on French produce, in respect of the internal tax, may be shared by foreign salts "nationalised by the payment of the import duty." They apply to the salting of *French* fish, to the manufacture of soda, to cattle food and manures. Foreign salts for the cod fishery of Iceland and the Doggers Bank are *free of import duty*. Stores for ships setting out for cod fishing at Newfoundland may be cleared (of any salts) for 60 centimes per 100 kilos, plus 4 %. Foreign salts for salting herrings and mackerel *at sea* pay the same. Salts for the cod fisheries must be imported and conveyed to the fisheries in French ships. Sea water is taxed for the chloride of sodium it contains, but payment of this is excused in the case of salt imported for *agricultural or medicinal* uses.

³⁷⁰ Spirits (or oil) of hartshorn and carbonate of ammonia (or sal volatile) and huile de Dippel, are in this class. Ammonia (the volatile alkali) is classed with *chemicals not mentioned*. The crystals of ammonia salts that form in the deposits of guano are taxed as *crude salts of ammonia*. Refuse of gasworks, which contains more than 25 % of salts of ammonia, is taxed for its whole weight in this class, containing less, it is classed as *manures* (43).

Note.	CHEMICALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.			
371	Salts, and other combinations of	100 kilogrammes.		<i>a. b. c.</i> for <i>d.</i> add 3 fra.
	cobalt.*	—	exempt	exempt.
372	Tin salt* - - - - -	ad val.	5 %	see 417.
	and per 100 kilogrammes -	gross	0 30	—
	Acetates*:			
373	of copper - - - - -	—	see 417	—
	„ crude, verdigris, wet -	net	—	15 60
	„ „ „ dry -	„	—	37 20
	„ crystallised verdigris -	„	—	49 20
374	of iron, liquid - - - - -	gross	exempt	exempt.
	„ concentrated - - - - -	net	see 417	48 00
375	of lead (sugar of lead) -	—	see 417	84 00
376	of potash - - - - -	net	see 417	84 00
377	of soda, anhydrous - - -	„	4 00	84 00
	„ crystallised or hydrate -	„	3 80	84 00
378	Aluminate of soda* - - -	ad val.	10 %	see 417.
	[and per 100 kilogrammes	gross	0 70	—
379	Arsenate of potash* - - -	net	see 417	84 00
380	Borax :*			
	crude, tincal (pp. 62, 63).			
	other - - - - - [Treaty]	—	exempt	—
	- - - - - [„]	—	see 417	—
	crude, native - - - [General]	gross	—	<i>a. b. c.</i> <i>d.</i> exempt 5 00
	artificial, crude - - [„]	net	—	50 00 55 00
	half refined - - - [„]	„	—	<i>c.</i> <i>a. b. d.</i> 65 00 70 00
	refined - - - - - [„]	„	—	<i>a. b. c.</i> <i>d.</i> 216 00 219 00

*71 Includes all the artificial combinations of cobalt, excepting *smalt* [387], *auree blue* [388], and the *oxydes* [383].

*72 Includes only the protochloride and bichlorides of tin (called Libavins' fuming liquor), &c. Other salts of tin are classed with [417] *chemicals not mentioned*.

*73 Includes pyrolignite of iron. Also a fluid dye made of gall nuts, iron, and acid called "dyer's of currier's black," which is classed with *liquid acetate of iron*.

*74 Pharmaceutical preparations, as goulard water, &c., are classed with *compounded medicines*.

*77 The *anhydrous* acetate of soda submitted to heat does not flame nor smoke, the *crystallised* acetate burns and gives off a dull red vapour.

*80 The so-called borax of Peru is a borate of lime, and is classed with *ores* (No. 333). *Native borax* is the so-called *tincal* of India and China; *artificial* is a combination of boric acid with soda; *half refined* appears in larger crystals than *crude*, or in small crystallised plates of 4 to 5 centimeters thick, &c., it is mixed with a white powder which appears argillaceous. It comes from China. *Refined* is externally very like soda-salt. It can be known by mixing a small quantity with salt of sorrel, pouring alcohol on it and burning it. It burns with a green flame at the edges. The refined borax of California, which is not entitled to the benefit of the treaties, is sometimes presented as an English product. Its crystals are irregular, rounded, and broken at the edges, and it contains a quantity of dust, &c., the effect of its, long voyage. The English product comes in regular and perfect crystals.

Note.	CHEMICALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
		100 kilogrammes.		<i>a. b. c.</i> for <i>d.</i> add 3 fra.
381	Carbonate of magnesia*	net	exempt	240 00
382	Carbonate of lead* -	gross	2 00 (<i>a</i>)	exempt.
383	Citrate of lime* -	"	exempt	1 20
384	Chlorate of potash* -	net	32 35	<i>see</i> 417.
385	Chloride of alumium* -	ad val.	10 %	<i>see</i> 417.
386	" " lime -	gross	3 55	<i>see</i> 417.
387	" " magnesium* -	"	0 40	<i>see</i> 417
388	" " potash -	"	exempt	exempt.
389	Chromate of lead* -	} net {	10 %	90 00
390	" " potash -		ad val.	180 00
391	Iodide of potassium* -	"	exempt	600 00
392	Mineral kermes* -	gross	2 00	2 00
393	Nitrate of potash* } direct import	"	exempt	<i>c. exempt.</i>
	Saltpetre - } indirect "	"	2 40	<i>a.b.d.</i> 3 00
394	Nitrate of soda,* direct import -	"	exempt	<i>c. exempt.</i>
	" " indirect "	"	exempt	<i>a.b.d.</i> 3 00
395	Oxalate of potas- sium* - { [Treaty]	"	10 00	—
	(Salt of sorrel) - { [General]	net	—	84 00
396	Silicate of soda : *			
	anhydrous -	gross	4 20	} <i>see</i> 417.
	crystallised or hydrate -	"	3 85	
397	Sulphates* (pp. 64, 65) :			
	of alum, burnt or calcined -	net	} <i>see</i> 417	107 28
	" other -	"		30 00
398	of copper (blue copperas, blue vitriol).	"		37 20
399	of iron (green copperas, green vitriol).	gross		7 20
400	double S. of iron and copper -	net		22 20

³⁸¹ Liquid magnesia is classed with *compounded medicines*, *see* Note 453.

³⁸² The class consists of white lead, or white flake, or ceruse.

³⁸³ The composition of chromate of lead, sulphate of lead, and sulphate of lime, known as "jaune de Cologne," and the green colours, of which chromate of lead is the base, are classed as *colours not mentioned*.

³⁸⁴ *Mineral kermes*.—Tartar emetic is classed with *compounded medicines*; some compositions of antimony are with *colours not mentioned*; all other chemicals of which antimony is the base are in this class. The principal are:—1. Hydrochlorate (butter) of antimony. 2. The sulphuretted oxides; saffron of antimony (red antimony); liver of antimony (opaque brown); "le verre d'antimoine" (transparent red). 3. Le soufre doré d'antimoine (orange coloured).

³⁸⁵ Silicate of soda in solution is classed as pure.

³⁹⁷ The different kinds in this class are:—rock alum, Roman, Levant, Liège, *burnt* (specially taxed in the General Tariff), artificial, and feather alum. The Treaty Tariff makes no distinction of these kinds, but places sulphate of alumina in [417]. Aluminous earths when they contain 80 % of alum are in this class.

(a) The importer may select the conditions of the General Tariff.

Note.	CHEMICALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
	<p>The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.</p>			
	Sulphates*—cont.	100 kilo-grammes.		a. b. c, for d. add 3 fra.
401	of magnesia (Epsom salts) -	net	exempt	84 00
402	of potash -	"	exempt	exempt.
403	of soda, pure, anhydrous, containing more than 25 % of the salt.	gross	7 20	7 20
	not more than 25 % of the salt	"	1 80	1 80
	crystallised or hydrate (Glauber salts).	"	0 95	1 25
	of soda, impure, anhydrous, containing more than 25 % of the salt.	"	6 60	6 60
	not more than 25 % of the salt	"	1 75	1 75
	Glauber salts -	"	0 90	1 20
404	of zinc (white copperas, white vitriol).	net	see 417	37 20
405	Sulphite of soda* -	gross	1 80	see 417.
406	Hyposulphite of soda* -	"	3 80	see 417.
407	Sulphuret:			
	of arsenic (orpiment, realgar) -	"	exempt	9 60
408	of mercury* (cinnabar) } see {	net	{ see {	180 00
	" (vermilion) } note {	"	{ 417 {	240 00
	Acid tartrates of potash:			
409	very impure, wine lees -	gross	exempt	exempt
410	impure,* crude tartar, argol -	net		a. c. b exempt 2 40
411	" crystals of tartar -	"		a. b. c. 30 00
412	pure,* cream of tartar -	"		36 00

⁴⁰⁸ By *hydrated sulphate* is meant the *glauber salts* of commerce, which contains 56 % of water. Sulphate slightly hydrated are classed as *anhydrous*. Bisulphate of soda is classed as *sulphate*. Glass gall or sandiver is classed as *sulphate of salt impure and hydrous containing not more than 25 % of salt* when it comes from a process of manufacture with *soda*, if from *potash* it is [408].

⁴⁰⁷ Orpiment and realgar pulverised are classed with *colours not mentioned*.

⁴⁰⁶ Cinnabar sublimated, pounded in water, and pulverised, becomes *vermilion*.

⁴⁰⁹ *Wine lees* after clearing the customs, have to pass the offices of **INTERNAL TAXES**. Consult Notes 475, 476.

⁴¹⁰ *Crude tartar and crystals of tartar* for manufacture of cream of tartar or tartaric acid are admitted to **TEMPORARY IMPORTATION** free (cf. 198 O.P.).

Note.	CHEMICALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
		100 kilogrammes.		a. b. c.
413	Tartrate of potash* - -	net	ex-empt.	for d. add 3 fr.
414	Double tartrate of soda and potash.*	"		84 00
415	Kreuznach salt* - -	"	see 417	12 00
416	Chemical products of coal tar*	—	see 417	see 417.
417	Chemicals not mentioned,* and chemicals specially referred to this class.	ad val.	5 %	prohibited.

⁴¹³ The waters (leach brine) of Kreuznach are taxed as *mineral waters*, No. 484.

⁴¹⁶ Coal tar distilled yields a *light oil*, *heavy oils*, and a *viscous residuum*. The light oil is specially tariffed as *essence of coal*. The heavy oils and the residuum are taxed as *tar*. The component elements of the light and heavy oils, separated, are the subject of the present class [416]. The principal are: nitro-benzene (liquid) used in perfumery under the name of oil of almonds; aniline (liquid): carbolic acid; naphthalene (solid); and anthracene. All these substances, combined with acids, &c., form a numerous class of chemical combinations, all of which are included in 416 (but compare Note 449).

⁴¹⁷ Includes, generally, all chemical products not specially tariffed. Reference must be made to *colours* mentioned and *not mentioned*, and to *prepared dyes*. "Many are classed "by assimilation" with the chemicals specified above, a considerable number, not mentioned by name in the tables, are "tariffed in groups by the law or the treaties under the generic names of *ammoniacal salts*, *salts of cobalt*, *products of coal tar*, *salts of soda not mentioned*." [The nominal table of the class here occupies 13 pages of the Tariff.]

⁴¹⁸ The three kinds of *cochineal*, black, grey, and red, are included; also *ammoniacal cochineal*, and *paste of cochineal*. All *fragments of cochineal* are taxed as *cochineal*.

⁴¹⁹ The class includes the animals "*en grains*," the *powder* or dust of the eggs, and remains of the insects (which is the most colouring part), and the small cakes made of it. For *mineral kermes*, see (Note 892).

⁴²⁰ *Lac-dye* includes only preparations of *gun-lack*, i.e., *lac-lac*, *lac-dye*, and *extracts of lac-dye*. Other preparations called *lakes* are classed with *colours not mentioned* (449). *Cochineal lake* is the common carmine.

⁴²¹ *Indigo* is exempt when it is imported direct from India or from other countries where it is gathered. Certificates of origin must be obtained from the French consular agents at the port of shipment, or from the local authorities, and these must certify that the indigos in question are the produce of the country from which they are shipped. *Indigos* of the States of Central America are classed as direct imports when they come direct from Colon-Aspinwall. Waste of indigo is classed as *indigo*.

⁴²² *Pâte de pastel grossière*, translated *pulp of wood*, is made with pounded leaves of the *Isatis tinctoria*, and must be distinguished from *pâte de pastel autre* or *indigo pastel*, which is the dye *fecula* got from the leaves by *macerating* them in water, in the same way that indigo is prepared. This last comes in small square cakes. It is taxed with *indigo*.

⁴²³ Dye compositions, of which indigo is the base, are classed with *indigo*.

⁴²⁴ *Cachou en masse*,** extract from the areca palm, the *Acacia catechu*, and other trees, an astringent in medicine, but chiefly used for dyeing and tanning. It has the other names of *Cutch*, *Kut*, *Japan earth*. Prepared in capsules by confectioners and chemists it is classed with *donbons*. *Gambier* (sometimes also called *Japan earth*) is placed in this class.

⁴²⁵ *Arnatto* or *annatto*, prepared from seeds of *Bixa orellana*, is used for dyeing paint and varnish, and for colouring some kinds of cheese. With this are classed: 1. Buckthorn seed. 2. *Vert de Chine* or *lo-kao*, a green dye. 3. *Crajsara*, a red powder from an American tree. 4. A composition sold in England under the name of *anatto*, used for colouring butter.

⁴²⁶ *Archil*, an extract of lichens (see 204), is of two sorts, the violet or *cudbear*, which dyes red, and the *tourneol* or blue.

⁴²⁷ *Mauvette* or *tourneol en drapaux* is the name given to rags dyed with the juice of the *croton tinctorium*. They furnish the blue colour to some kinds of cheeses. Rags saturated with *cochineal* and other red colours are in this class.

Note.	PREPARED DYES (pp. 66, 67).	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilogrammes.		
418	Cochineal ** - - -	gross	—	c. exempt d. 12 00 a. b. c.
419	Kermes, grains - - -	"	exempt	c. exempt d. 3 00 a. b. d.
420	Lac-dye - - -	"	exempt	c. exempt d. 6 00
421	Indigo: ** from producing countries - - -	—	—	exempt a. b. c. d.
	from elsewhere - - -	net	—	30 00 a. b. c.
422	Pulp of woad - - -	gross	—	For d. add 8 frs. exempt.
	Indigo pastel * - - -	net	—	same as in-
423	Indigo compositions * - - -	"	—	digo.
424	Terra japonica ** (catechu) - - -	gross	—	exempt.
425	Arnotto ** - - -	"	—	exempt.
426	Cudbear ** (violet) - - -	net	5 % ad	240 00
426	Archil * (blue) - - -	"	val.	120 00
427	Maurelle, in rags - - -	gross	exempt	exempt.
428	Extracts of dye woods: * black or violet - - -	net	20 00	} prohibited.
	red or yellow - - -	"	30 00	
429	Tannine juices, vegetable - - -	gross	—	exempt.
430	Prussian blue - - -	"	exempt	exempt.
431	Prussiate of potash: * yellow - - -	net	20 00	} 252 00
	red - - -	"	30 00	
432	Garancine* - - -	—	exempt	prohibited.

⁴²² Products of the decoction of dye woods: among them is curcumine (a yellow), which, being prepared by alcohol and ether, is subject to the INTERNAL TAX on alcohol, at the rate of 1 litre of alcohol per kilogramme of curcumine (see Note 431). The residuum is classed with the extracts when its colouring contents are still serviceable for dyes. If they are exhausted it goes with *dried vegetable juices not mentioned*, subject to the result of a reference to the Government experts.

⁴²⁹ Tannine juices, chiefly the fluid or concrete extracts of gall nuts, valonia, tan, chestnut, shumach, and "garou." The class must be distinguished from pure tannine or tannic acid, which is among *chemicals not mentioned* [417].

⁴³⁰ Prussian blue pounded in oil is classed with *colours not mentioned*. The class includes: 1. Mineral or Antwerp blue (a mixture of Prussian blue with alumina, carbonate of magnesia, and carbonate of zinc). 2. The tablets used for bleaching linen. Mountain blue is not in this class, but in that of *colours not mentioned*.

⁴³² The class includes flowers of madder and the alizarine of commerce. (*Turkey red*.)

⁴³³ Natural ultramarine is pulverised lapis lazuli. Artificial is a compound of fine clay, sulphur, and salts of soda, and is blue, violet, rose, or green, according to the proportion of these ingredients. Paste and powder are taxed alike. The class includes all colouring compounds made of ultramarine.

⁴³⁴ There are but two kinds: *fine*, of a fiery red, got from cochineal; and *common* (called cochineal lake), made of the refuse from the process of preparation of the fine.

Note.	COLOURS (pp. 68, 69).	Unit of Taxation.	Treaty (net).	General (4 % added).
434	Ultra marine : *	100 kilo-grammes.		a. b. c. for d. add 3 fra.
	natural - - - -	net	15 00	} 300 00
	artificial - - - -	"	15 65	
435	Carmines of all kinds - - - -	gross	exempt	exempt.
436	Blue ashes and mountain green - - - -	"	exempt	exempt.
437	Inks : *			
	Indian ink - - - -	net	20 00	120 00
	liquid, writing or printing - - - -	"	20 00	72 00
438	Varnishes : *			
	vermeil - - - -	"	10 %	{ 49 20
	other - - - -	"	ad val.	
439	Mountain green - - - -	gross	exempt	exempt.
440	"Stil de grain" (a yellow lake) - - - -	"	exempt	exempt.
441	Blacking * - - - - [Treaty]	net	4 00	—
	" - - - - [General]	net	—	147 60
442	Ivory black * - - - -	"	—	74 40
	Bone black - - - -	"	exempt	exempt.
443	German black - - - -	gross	—	8 40
444, 445	Spanish black and pine soot - - - -	"	—	1 20
446	Native mineral black - - - -	"	—	exempt.
447	Pencils :			
	(crayons) simple [General]	net	—	12 00
	" " [Treaty]	gross	1 00	—
	composite,* in soft wood - - - -	net	10 %	{ 120 00
	" in cedar - - - -	"	ad val.	
448	Scales of bleak - - - -	gross	—	exempt.
449	Colours not mentioned - - - -	"	5 %	exempt.
			ad val.(a)	

⁴³⁴ This is carbonate of copper in a fine powder. The class includes all colours made of copper in a fine powder. "Blue verditer" and "Sanders green" are other English names for the colours.

⁴³⁷ Marking ink for linen is classed with *chemicals not mentioned*. Sepia is with *colours not mentioned*. 1. Fancy inks, red, blue, &c., made of carmine, red woods, indigo, and other colouring substances. 2. Dry writing ink. 3. Chemical preparations for writing on zinc (for garden use, &c.) are classed with *writing ink*.

⁴³⁸ The class includes waterproofing preparations of india-rubber, gutta-percha, dry pitch, or tar dissolved in linseed oil.

⁴³⁹ This is a repetition of 436.

⁴⁴⁰ This is a yellow lake made of "French berries" (Avignon).

⁴⁴¹ "Noir à repasser les rasoirs" (a razor strap paste) is classed with *blacking*.

⁴⁴² Spodium (bone black) of ivory is classed with *ivory black*. Animal charcoal or bone black that has served the refineries, &c. is classed as *manure*, unless it is capable of being revived, when it is still in this class.

⁴⁴³ A mixture of bone black and wine lees calcined.

⁴⁴⁴ Spanish black is simply burnt cork. ⁴⁴⁵ Pine soot includes all other smoke blacks.

⁴⁴⁶ If any of these blacks are prepared (with gums or other ingredients) they are classed with 443.

⁴⁴⁷ Simple crayons are: 1. Ordinary wooden lead pencils. 2. Black or coloured chalks. 3. Strips of mineral ready to be put into wooden cases. All woods but soft wood and red are classed as *cedar*.

⁴⁴⁸ The fish preserved in alkali is classed with his *scales*. They are used to prepare an essence of a brilliant white colour, called "essence d'Orient."

⁴⁴⁹ Consult Note 443. "It must not be forgotten that many colouring substances are specially tariffed, and others are 'assimilated' to colours specially tariffed." Common paint boxes are *exempt*. See Note 433. Dye products of coal tar are placed in this class.

(a) The importer may select the conditions of the General Tariff.

Note.	VARIOUS COMPOUNDS.	Unit of Taxation.	—
450	<p>The duties quoted under the heading General Tariff are : (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.</p> <p>PERFUMERY (pp. 70, 71).</p> <p><i>1. Treaty Tariff.</i></p> <p>Alcoholic (a) perfumes,* per hectolitre of pure alcohol. — 15 00</p> <p>Not alcoholic :</p> <p>soaps* - - - - - gross 6 00</p> <p>scented pastilles for burning, referred to General Tariff.</p> <p>other kinds - - - - - „ 10 00</p> <p><i>2. General Tariff</i> (add 4 %).</p> <p>Scented waters :*</p> <p>alcoholic (a) - - - - - net 35 00</p> <p>free from alcohol - - - - - „ 120 00</p> <p>Perfumed vinegars *(a) - - - - - „ 120 00</p> <p>Pastes for toilet use, liquid or solid * - - - - - „ 30 00</p> <p>Soaps, liquid, pulverised, in cakes, or in balls * - - - - - „ 196 80</p> <p>Powders :*</p> <p>for the skin - - - - - „ 30 00</p> <p>for perfume, including tooth powders - - - - - „ 220 80</p> <p><i>exception, poudre de chypre</i> - - - - - „ 1,080 00</p> <p>Pomades* of all kinds - - - - - „ 147 60</p> <p>Faint* for the skin :</p> <p>white - - - - - „ 117 60</p> <p>rouge - - - - - „ 2,040 00</p> <p>Scented pastilles, for burning - - - - - gross {</p> <p>a. b. c.</p> <p>for d. add 3 frs. per 100 kilos.</p> <p>9 60</p> <p>c.</p> <p>exempt.</p>	100 kilo-grammes.	

⁴⁵⁰ **PERFUMERIES**, i.e., mixed or compounded articles. **SCENTED WATERS**, that is of lavender, mint rose, Cologne, mille fleurs, &c. and generally all sweet scented waters used for nothing but toilette perfumes, and obtained by infusing or distilling aromatics, flowers, or plants. [Compare the lists of *essences* taxed under *oils*, and of *liqueurs* under *beverages*.] All liquids containing alcohol are subject to the "taxe de consommation" on the alcohol they contain. Scents free from alcohol will melt sugar, and are not inflammable. **TOILET VINEGARS** are subject to the "taxe de consommation" on the vinegar. Their strength of acetic acid seldom exceeding 4 or 5 %; this would in that case be 5 francs per hectolitre (=22·01 gallons) of liquid. [Compare Note 476.] If they contain alcohol the tax for that is also to be added. Scented glycerine and hair dyes are classed with *toilet vinegar*. **SOAPS** pay a tax of 5 francs per 100 kilogrammes net. [Consult Note 461.] **TRANSPARENT SOAPS** manufactured by means of alcohol are liable to a further special tax upon alcohol, calculated at the rate of 30 litres of alcohol for every 100 kilogrammes net of transparent soap. If the soaps have been made without using spirits a declaration must be made to that effect, and the authorities will take samples to test. **POMADES**.—This class is only for fats scented for toilet use, the customs officers are charged to be watchful that no ointments or other pharmaceutical preparations are introduced under it. Fats simply bleached come in the class *animal fats* [32].

(a) Add the "taxe de consommation" on alcohol or vinegar [consult Note 476, 481].

Note.	VARIOUS COMPOUNDS.	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European products imported direct from any place out of Europe; (d.) on the same imported from European ports.			
451	Common soaps - - -	100 kilogrammes.	6 00	a. b. c. for d. add 3 fr. per 100 kilos. prohibited.
452	Prepared spices: *			
	[General Tariff] mustard, meal or confection.	gross	—	80 00
	other kinds -	net	—	240 00
	[Treaty Tariff] mustard, liquid or mixed.	gross	5 00	—
	" sauces -	net	25 00	—
	" other kinds -	—	referred	—
	Compounded Medicines: *			
453	distilled waters, containing alcohol	"	to the	35 00
454	" free from alcohol -	"	General	120 00
455	not mentioned - - -	—	Tariff	prohibited.

⁴⁵¹ All SOAP, hard and soft, are classed alike, and all are subject to the internal tax of 5 francs per 100 kilogrammes; excepting soaps intended to be used in the treatment of partially manufactured textile fabrics by the manufacturers who have been admitted by the "Administration des contributions indirectes," to this privilege. The export and carriage of soaps are the subject of special restrictions.

⁴⁵² MUSTARD is chargeable with internal tax on the vinegar it contains [see Note 476]. By SAUCES are meant all extracts, more or less liquid, prepared for seasoning, such as gravies, jellies, or spiced juices of meats, fishes, or vegetables. In PREPARED SPICES are included all pulverised substances used for seasoning food, but not any produce elsewhere taxed, and simply pulverised, such as pepper, pimento, nutmeg, &c.

⁴⁵³ In this class are included all medicines in which several substances are mixed together according to the prescriptions of the pharmacopœia, or in variable proportions from medical prescriptions. Vegetable alkaloids, oxides, salts, and generally all defined and invariable chemical combinations are classed as *chemical produce*. For simple drugs see *Medicinal kinds, Balsams, Oils, &c.* See also *Opium*.

⁴⁵⁴ Compounds containing alcohol are further subject to the internal tax on the alcohol they contain. Free from alcohol are those which melt sugar, and are not inflammable.

⁴⁵⁵ All homœopathic medicines, secret remedies, &c., &c. are included in this prohibition, but the under-mentioned are, by a later law, admitted:—

English citrate of magnesia (a granulated mixture of carbonate of soda, tartaric acid, and other ingredients, distinct from pure citrate of magnesia, which is classed among <i>chemical produce not named</i>) -	duty per 1 kilo net	fr. cts.
Oreosote (in the Treaty Tariff this is classed with <i>chemical produce</i>) -	" "	4 82
Liquid magnesia (carbonate of magnesia dissolved in water) -	" "	0 30
Adhesive plaster -	per 1 metre length	1 20
Poor man's plaster -	" "	0 12
Oxley's essence of ginger -	per 1 kilo net	9 60
Espirit ou alcoolat de genièvre -	" "	4 82
plus the internal tax on alcohol.		
Volatile spirits of amber (in the Treaty Tariff this is <i>chemical produce</i>) -	1 kilo net	3 86
Liquid extract of condurango -	" "	2 40
Hasheesh (preparation of Indian hemp leaves) -	" "	2 88
Hockiac (in dull grey cakes, semi-opaque, aromatic) -	" "	10 80
Lactucarium (in quantities of not more than 10 kilogrammes) -	" "	4 50
Henry's calcined magnesia -	" "	7 68
Moxon's effervescent magnesia -	" "	3 84
Pastilles d'Ems -	" "	1 50
Pastilles d'Ipecocuanha -	" "	0 72
Pastilles of salts of mineral waters (Dr. Otto Schür) -	" "	0 56
Pastilles of balsam of tolu -	" "	1 44
Piline for liniment -	" "	7 08
Holloway's pills (the kilo contains from 90 to 140 boxes) -	" "	66 00
Hunt's pills (the kilo contains from 100 to 200 boxes) -	" "	54 00
Morison's pills (the boxes vary from 18 to 180 to the kilo) -	" "	10 80
Anti-scorbutic syrup -	" "	0 50

All the above duties are increased 4 %, and are assumed to represent an ad valorem tax of 24 %. Travellers are allowed to bring their own medicines on payment of 24 % (and 4 % additional), and, by special permission first applied for and obtained, to import small quantities for their use.

Note.	VARIOUS COMPOUNDS.	Unit of Taxation.	Treaty (net).	General (4% added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilo-grammes.		a. b. c. for d. add 3 frs. per 100 kilos.
456	Extracts of Peruvian Bark - - -	gross	2 00	2 00
457	Chicory , roast or ground * - - -	"	5 00	55 00
458	Starch * - - - Treaty General	net	1 50 —	— 25 20
459	Sealing-wax * (pp. 72, 73) - - -	"	30 00	120 00
	Manufactured wax ; not candles -	gross	4 00	4 00
	Manufactures of stearic acid; not candles.	ad val.	—	5 %
460	Candles : bougies, wax tapers, and other candles, of which the wicks are woven, twisted, or plated, and chemically treated.	"	10 %	10 %
461	tallow candles, &c., not included in 460.	ad val.	10 % (a)	5 %.
462	Isinglass * - - - -	net	40 00	a. b. d. 45 00 c. 40 00
463	Glue - - - - Treaty Tariff General "	ad val. —	5 % (a) —	— exempt.
464	Gelatine : is classed with <i>meat extracts</i> (cf. 467) or by Treaty Tariff - - -	— ad val.	— 5 % (a)	— —
465	Albumen - - - -	gross	exempt	exempt.

⁴⁵⁶ But quinine, cinchonine, and sulphate, and other salts of quinine and cinchonine, are classed in *chemical produce*, and the extracts of "quinquina des officines," obtained by the treatment of powder of quinquina with water or alcohol, are classed with *compounded medicines not named* [456].

⁴⁵⁷ Ground chicory mixed with sugar or caramel is taxed with *raw sugar*, below No. 13, and subject to the internal tax. Pulverised substances, classed as "imitations of coffee" (*faux café*), are taxed as *ground chicory* unless they contain coffee or cocoa, in which case they are taxed with *ground coffee* or *ground cocoa*. Extracts of chicory are classed as *compounded medicines not named*. Prepared chicory and the articles classed with it are subject to an internal tax of 30 centimes per kilogramme. These articles may only be brought into commerce in packets of prescribed sizes, bearing the excise stamp. The sizes are of 100, 250, 500, or 1,000 grammes, and must be so contrived that the excise stamp completely closes them. Further special restrictions on the importation of this class of goods are dependent on the circumstance whether the importer is a licensed manufacturer or merchant or not. Export and transfer are the subjects of similar special regulations.

⁴⁵⁸ Dextrine or British gum, the calcined starch of wheat or potatoes (used on postage stamps, &c.), is taxed as *starch*.

⁴⁵⁹ This class includes all bougies, whether of stearine, wax, spermaceti, paraffine, or other material, and little wax tapers (*Fr. rats de cave*). Wax matches are classed with *lucifer matches* (475). This class is further subject to an INTERNAL TAX of 30 francs per 100 kilogrammes net, from which, however, wax matches, night lights, and *rats de cave*, but not Christmas candles, are exempt. These goods may only be brought into commerce in packets or boxes of prescribed sizes, bearing the excise stamp. These prescribed sizes are to contain—of ordinary candles 500 grammes, or of ordinary wax tapers 500 or 1,000 grammes; or of ornamental goods 200, 500, or 1,000 grammes. The limits of admitted variation are—for candles 60 to 100 grammes, and for the rest 3 %; but each packet must bear a label stating in plain letters, in French, the weight of its contents; and duty is charged, not on the actual, but on the regulation quantity. These regulations do not apply to licensed manufacturers or merchants, who may cover the internal tax by a deposit as guarantee, and deal with the goods under surveillance. Operations for export or transfer are subject to similar special restrictions.

⁴⁶¹ This class is of candles with straight or parallel wicks, which may generally be known by their black ash. Candles of resin are classed with *dry pitch*.

⁴⁶² Is soluble in boiling water [cf. Note 63].

⁴⁶³ Gelatine in coloured leaves, or imitation of shell, is classed with *cardboard*.

⁴⁶⁵ Albumen of blood is classed with albumen of egg. The class includes liquid white of egg and cascine to him. (a) The importer may select the conditions of the General Tariff when they are the most favourable

Note.	VARIOUS COMPOUNDS.	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European products imported direct from any place out of Europe; (d.) on the same imported from European ports.			
466	Milk Sugar (Lactine)* - - -	100 kilogrammes. gross	exempt	a. b. c. for d. add 3 fra. per 100 kilos. (See the Note.)
467	Meat Extracts - - -	"	exempt	exempt.
468	Cigars and Manufactured Tobaccos:		referred to the General Tariff.	a. b. d. 8 40
	for the French Government - - -	"		c. exempt.
	for personal use, in parcels of not more than 10 kilogrammes:	1 kilo-gramme.		
	cigars and cigarettes - - -	net		36 franca.
	other manufactured tobacco - - -	"		25 franca.
	for commerce - - -	100 kilo-grammes.		prohibited.
469	Gingerbread - - -	net		15 60
470	Tobacco juice - - -	gross	2 00 (a)	1 20
471	Sherbet* - - -	net	—	88 80
472	Chocolate* - - -	"	{ 95 10 & 4 % added	{ 160 00
472	Cocoa, simply pulverised* - - -	"	{ 116 66 & 4 % added	{ 160 00
473	Coal Oil:			
	spirit of tar, benzole, } { Treaty	ad val.	5 %	—
	or benzine - } { General	net	—	15 60

⁴⁶⁶ In the General Tariff this article is taxed with cane sugars, beneath No. 13.

⁴⁶⁷ This class includes only pure extract of meat. See the note under *salt meat* (11).

⁴⁶⁸ Small samples sent to the French Government on approval are forwarded to the authorities of the tobacco office duty free. Tobaccos required by individuals for health's or habit's sake may be imported or released from bond at certain offices at the duties quoted. Several individuals combining are permitted to import, under one declaration, 10 kilogrammes apiece. In this case the name and address of each is taken, and a separate receipt is given to each. Agents are not recognised unless furnished with special authority. Travellers are allowed to pay duty on 1 kilogramme of tobacco or 400 cigars, or less, or they may carry such a supply through France *in transit*. The conductors of public carriages who cross the frontier to and fro in their day's work are excluded from this privilege. Any tobacco or cigars found in the country not marked by the "régie" (excise) is liable to seizure, excepting traveller's provisions, &c., and generally small quantities of less than 1 kilogramme. Special regulations affect export, transit, and ships' stores.

⁴⁶⁹ This class includes Brussels "biscottes;" all biscuits and cakes which contain small quantities of mixed, ginger, lemon, or soda water; cakes made of meal and whites of eggs; concentrated milk when it is mixed with meal and slightly sweetened.

⁴⁷⁰ The saturation of vegetables or powders to give them the likeness of tobacco is prohibited; along with the sale or transfer of spurious tobacco.

⁴⁷¹ This is described as a scented paste, much used by Oriental nations, and composed of lemon, sugar, and aromatic herbs. Dissolved in water it is an agreeable beverage.

⁴⁷² Concentrated milk mixed with cocoa is classed with *cocoa*, or if sweetened is classed with *chocolate*.

(a) The importer may select the conditions of the General Tariff.

Note.	VARIOUS COMPOUNDS.	Unit of Taxation.	Treaty (net).	General (4% added)
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.			
474	FERMENTED BEVERAGES* (pp. 74, 75) -	1 hecto- litre.		a. b. c. for d. add 3 fr per 100 kilos. gross weight
475	Wines - - - - -	of liquid	0 30	5 00
	liqueur wines - - - - -	"	0 30	20 00
476	Vinegars (not perfumery) - - - - -	"	2 00	2 00
477	Cider - - - - -	"	0 25	2 40
	Perry and verjuice - - - - -	"	—	2 40
478	Beer - - - - -	"	5 75	7 20
479	Mead - - - - -	"	—	30 00
480	Orange Wine - - - - -	"	exempt	30 00

* Bottles, demi-johns, stone jars, and leather bottles containing beverages are taxed separately [The hectolitre = 22·01 gallons.] Wines, vinegars, cider, perry, mead, brandies, spirits, and liqueurs are subject to custom duties as above, and to three internal duties (circulation, consumption, entrée) and locally, in many places, to octroi. All manufactures containing alcohol are taxed in the same way in respect of the alcohol they contain. Special regulations affect the export and transfer.

WINE.—This class includes only wines made from juice of grapes, other kinds are classed with orange wines (480). Wines mixed with medicines are classed with compounded medicines. Wine imported under the General Tariff, and containing more than $\frac{1}{16}$ ths of alcohol, pay customs duty on alcohol on every hundredth of excess, and for wine on the remainder of their bulk. Fractions are not counted against the importer. The rates of internal taxation for French and foreign wines are settled by the following scale:—All wines of less than 18° are taxed as wines. For wines of France or of treaty countries this limit is extended to anything less than 16°. Other countries pay between 15° and 16° the duty of "consummation" for one degree of alcohol. All wines from 16° to 21° inclusive pay (1) the wine duty on the whole bulk, and (2) double the three internal taxes on the quantity of alcohol above 16°. All wines above 21° of alcoholic strength pay single duties of the three internal taxes for alcohol on the whole bulk. Must of grape is subject to two thirds of the duties on wines, and vendange (or crushed grapes) to one half thereof.

LIQUEUR WINES are those which either naturally or artificially are concentrated, rich in sugar and alcohol, with a peculiar flavour of syrup or liquor. Amongst others, Hungarian, Madeira, Marsala, Cape wines, Xeres are mentioned, but the classification is not arbitrary, but is determined according to the quality of the wine. Rhine wines, Oporto, champagne, and all sparkling are classed as ordinary wines. Spurious liqueur wines made with alcohol, by General Tariff, are *liqueur wines*; by Treaty Tariff, are dealt with as *alcohol*. See also Note 480 below. Vermouth is a *liqueur wine*.

This class includes all except toilet vinegars; say, of wine, corn, beer, cider, perry, beet-root alcohol, potatoes, wood, &c.; also pyroligneous acid and pure acetic acid in a liquid state, diluted or not. Crystallised or solid acetic acid is classed with *chemical produce not mentioned*. Wood naphth or methylic alcohol is classed in the General Tariff (for customs duty only) as *vinegar*, but in the Treaty Tariff as *chemical produce not mentioned*. See Note 417. The following is the table of internal taxes on this class:—

- Vinegars containing up to 8% of acetic acid - - - - - 4 francs per hectolitre.
- " " 9 to 12% " - - - - - 6 " "
- " " 13 to 16% " - - - - - 8 " "
- Acetic acids and vinegars containing 17 to 30% acid - - - - - 15 " "
- " " 31 to 40% " - - - - - 20 " "
- " " more than 40% " - - - - - 42 " "
- Acetic acid, crystallised or solid - - - - - 50 francs per 100 kilos. net.

All vinegars and acetic acids are subject to the above tax, whether toilet vinegars, &c., or food preparations, condiments, &c. The ordinary strength of vinegars is from 7 to 8% of acetic acid, and this can be tested by tasting. Higher strength is tested with the acetimeter of Salleron. Fractions are not reckoned against importers.

The musts of apples and pears are classed with *cider*; the juice of wild apples also.

The tables include the amount of the tax imposed upon foreign beers as an equivalent to the excise levied on French brewers. This class includes lemonade, and limonade gazeuse, and ginger beer.

Orange juice. This class includes the other fruit juices commonly called wines (but not *lemon juice* (341)) in an unmixt state, fermented or not. Mixed with alcohol, sweetened or not, they are treated as *liqueurs*. Simply sweetened, they are classed either as *liqueur wines* or as *syrups*.

Note.	VARIOUS COMPOUNDS.	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European products imported direct from any place out of Europe; (d.) on the same imported from European ports.			
	DISTILLED BEVERAGES.*	1 hecto- litre.		a. b. c. for d. add 3 frs. per 100 kilos. gross weight.
181	Alcohols : brandies, bottled - - - " not bottled - - - other spirits - - -	of liquid of pure alcohol. "	15 00 15 00 15 00	30 00 30 00 30 00
182	Liqueurs - - - -	of liquid 100 kilos.	15 00	35 00
183	Pomage - - - -	gross	—	exempt.
184	Mineral Waters , stone bottles in- cluded.	"	exempt	exempt.

* This class includes only alcohols or alcoholic fluids derived from distillation of beverages or ginnaceous substances. The products known as chemical alcohols (including amylic and methylic alcohol, &c.) are classed as *chemical products not mentioned*.

By BRANDIES are meant alcoholic liquids fit to drink; their strength varies from 38° to 65° Centesimal (=16° to 24° Cartier); all above this strength are called *spirits*. The alcoholometer used is that of Gay-Lussac, which indicates in hundredths the proportion of pure alcohol that the liquid contains at a temperature of 15° Centigrade. Brandies enclosed in sweetmeats are classed as *bottled*. Brandies greened are classed as *liqueurs* (482).

The "TAUX DE CONSOMMATION" ON ALCOHOLS, referred to in the notes relating to all *manufactures containing alcohol* is:—

for alcohols in casks - 266 05 } per hectolitre of pure alcohol.
" " bottles - 328 55 }

In this class are included dried apples and pears obviously unfit for the table. Barberry berries macerated in sour beer. The juice of these berries is classed with *citric acid* (see 341). This class is subject to special restrictions in respect of local dues at all towns of a population of 4,000 or more souls.

Natural and artificial are classed alike. The exemption from the tax on bottles only applies to stone bottles (cruchons). Mineral waters mixed with drugs or any other ingredients are treated as *unpounded medicines not mentioned*.

POTTERY.—This class is only for ceramic pottery. Metal goods are classed under their respective metals. Bricks, tiles, and slates are classed with BUILDING MATERIALS [265, 268, 267.] Children's toys, all of pottery, are taxed as POTTERY of their kind; but if they are of a prohibited kind, or of pottery and other materials combined, they may be introduced as TOYS. Pottery in use by persons settling in France, and ancient stone ware and china, of date anterior to 1700, are admitted duty free. Potteries differ in the substance and purity of their clay masses, and in the modes of preparing and baking them, and are classified by these differences. Distinction is also made in common earthenware and fayences, of different kinds and quantities of ornamentation. It is explained that the goods of the last value are frequently those the defects of which are concealed by ornaments, and it is only when the mouldings, carvings, or ornaments have been finished by hand, that they are considered in taxation.

COMMON EARTHENWARE, *i.e.*, made of unwashed clays. These are baked in biscuit, *i.e.*, by a gentle fire, or "en grès," at a higher temperature. The mode of baking determines the hardness of the paste by which the two classes can be readily distinguished. The first can be scratched with a knife, the latter not. The term "pottery of coarse clay" in the General Tariff is equivalent to "common clay biscuit baked" in the Treaty Tariff. COMMON POTTERY is without glazing, or is covered with a simple metallic surface, generally yellow, green, brown, or red. It is used for household utensils. With this class are included the alcazars or porous vases, varnished and unvarnished, used as water pots.

CRUCIBLES follow, in the General Tariff, the classification of their pastes. Plumbago crucibles, in the General Tariff, are taxed with stone ware (grès commun). For drain pipes, in the General Tariff, see *grooved tiles* [266]. The exemption, in the Treaty Tariff, of CLAY PIPES only applies to common pipes

Note.	VITRIFICATIONS (pp. 76, 77).	Unit of Taxation.	Treaty (net)
	<i>By Treaty Tariff.</i>		
485	Pottery :*	100 kilo-grammes.	
486	of common clay, biscuit baked :		
	gas retorts, crucibles of all kinds, including graphite or plumbago, drain and other pipes, clay pipes, and unvarnished in any shape.	gross	exempt.
	varnished, but not ornamented with sculpture or painting (coarse pottery).	"	exempt.
	varnished, with ornaments in relief, of one or several colours.	"	5 00
487	of common clay, stone bottle work :		
	utensils and apparatus for chemical manufacture.	"	exempt.
	common ware of all kinds - - -	"	4 00
	dry bodies (plain and ornamental ware made of fine pastes, washed and baked).	ad val.	15 %
488	"faïences stannifères," of coloured paste, covered white or coloured, with ornaments in relief, flutings, or indentations, monochrome, moulded, not finished by hand.	—	exempt.
	"faïences stannifères," glazed in several colours, printed or painted by hand, or moulded in relief and finished by hand.	ad val.	15 %
	"faïences fines," or half-china ware (pottery of fine white pastes, biscuit cooked, with vitreous enamels, plain or engraved, with or without paintings).	ad val.	15 %
489	porcelains of every kind (white or ornamented, parian or biscuit, white or coloured).	ad val.	10 %

without ornaments. Varnished or ornamented, or in stone or porcelain, they are taxed with other pottery of the same kinds. In the General Tariff common unvarnished pipes are classed with COMMON EARTHENWARE; varnished, and ornamented or not, with common stone ware; and of fine stone, half china, or china, with FINE MERCERIES; and with amber or metallic fittings they are classed, in both tariffs, with MERCERY.

* STONE BOTTLE WORK is of two kinds, fine and common; the paste of the former is much finer and more finished, because the clays it is made of, which are often mixed with kaoline, have been washed. The exemption of CHEMICAL UTENSILS does not apply to such as are available for other use than chemical, in the General Tariff, with *Armature*, in the Treaty Tariff they are classed with *Armature*. Artificial hones and bricks of pulverised pumice stone are classed with *stone bottles*.

Note.	VITRIFICATIONS.	Unit of Taxation.	Treaty (net).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.		
	<i>By General Tariff (add 4 %).</i>		<i>a. b. c.</i> <i>for d. add 3 frs</i> <i>per 100 kilos.</i>
486	of coarse clay (excepting drain pipes, <i>see the Note.</i>)	gross	7 20
487	stone bottle work, common :		
	for art or manufactures - - -	net	12 00
	for household use - - -	"	18 00
	stone bottle work, fine - - -	prohibited.	
488	fayence, common - - -	"	58 80
	" fine, half-china ware - - -	prohibited.	
489	porcelains from China or Japan, imported direct from a country out of Europe.	ad val.	10 %
	other porcelains, common - - -	net	196 80
	" fine - - -	"	392 40

⁴⁸⁶ Common fayences, called "stannifères" from the composition of their glaze, are of a clay mass, more or less tinted, always delicate, and in general differing but slightly from the paste of *pottery of coarse clay*. Their peculiar distinction from that class is their enamel, which is always opaque and either white or coloured. "Faïences fines" or half-china ware are distinguished from the common fayences by the hardness of their clay mass, which is made of a fine white clay, sometimes mixed with kaolin, and by their enamel, which are transparent; and they are distinguished from porcelain by the opacity of their paste, that of porcelain being transparent. Ironstone china, called in France "opaque porcelain," is a "faïence fine" of the finest quality. Stoves in this material are taxed as "faïences." Under the Treaty Tariff their metallic parts are taxed separately.

⁴⁸⁹ PORCELAIN.—Lithophany is classed as *porcelain*. Porcelain buttons are classed with *buttons* Marbles (toys so called) of porcelain are classed, in the Treaty Tariff, as *porcelain*, and in the General Tariff as *agates*. Fragments of porcelain are classed with *stones and earthen not mentioned* [261]. The material called Bézumur's porcelain, which is made of glass, is classed as *glass*. The Treaty Tariff taxes all porcelains alike, but the General Tariff distinguishes common from fine. This distinction must be observed in compiling statistical returns. Common porcelain are—1. P. of the colour of the clay mass, not gilt. 2. P. ornamented in camaieu, i.e., in monochrome designs merely printed on. 3. Coupling boxes of looms. 4. Tubes and eyelets for working in cotton, &c. Fine porcelain is porcelain gilt, painted, ornamented (excepting in camaieu), blue on a plain ground, gilt or not, carved, engraved, or cast in relief, and all Chinese porcelain but plain white.

⁴⁸⁶ Ordinary window glass, plain or grooved.

⁴⁸¹ Coloured glass is of two kinds, the most valuable is flashed glass, which is valued at about double as much as glass coloured in the mass. The principal kind of polished is the English patent glass.

⁴⁸⁶ Rock crystal, cut and polished, for the same use, is classed with *watch and optician's glasses*.

⁴⁸³ Full bottles and phials of all kinds are classed with **FULL BOTTLES** in General Tariff. Crystals with ornaments or settings (not gold or silver) are valued with their ornaments, &c. These last, imported apart, are classed with their respective *metal manufactures*. For *chemical apparatus* consult *Notes* [630].

⁴⁸⁴ BOTTLES.—The duty on full bottles is only due when their contents are either duty free or taxed by net weight or by measurement. It is in no case necessary to empty the bottles in order to ascertain the weight of them.

⁴⁸⁵ CULLET or broken crown and flint glass is easily distinguished from vitrifications dropped hot into water by the sharpness of its edges.

Note.	VITRIFICATIONS.	Unit of Taxation.	Treaty (net).	General (4 % added).
	<p>The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.</p>			
	Glass and crystals :	100 kilo-grammes.		a. b. c. for d. add 3 frs. per 100 kilos.
490	window glass* - - -	gross	3 50	prohibited.
491	coloured, polished, or carved glass*	ad val.	10 %	prohibited.
492	watch and optician's glasses, rough, cut,* or polished.*	"	10 %	—
	glass for spectacles or watch faces, rough.	net	—	12 00
	glass for spectacles or watch faces, cut or polished.*	net	—	240 00
493	hollow glass-ware and crystals, white or coloured.*	ad val.	10 %	prohibited.
494	bottles, full or empty, all shapes -	gross	1 30	—
	" full, in addition to the duties on the liquid -	per litre of capacity	{ —	0 18
	" empty - - -			
495	cullet or broken glass - - -	gross	exempt	exempt.
496	vitrifications* and enamel (castings) in masses or in tubes.	"	3 75 (a)	—
	vitrifications* in beads perforated or cut, or in imitation jewellery, brooches, thread, balls, buttons, and imitation coral, in glass.	net or ad val.	20 00 (a) 10 %	—
	[(a) Or 10 per cent. ad valorem, at option of the importer.]			
	vitrifications* in masses or tubes for cutting.	net	—	360 00
	vitrifications* in perforated beads -	"	—	120 00
	" imitation jewellery -	"	—	720 00
	" enamel - - -	"	—	240 00

496 VITRIFICATIONS EN MASSES appear in the shapes of their moulds as cones. Broken pieces are admitted at the same duties. The class includes moulds or backs of buttons simply cast, frits drawn in water, and other vitrifications dropped hot into water (verre étouffé). TUBES FOR CUTTING, transparent, are perforated for making beads, &c. This only refers to very thin tubes, those of which is classed with *perforated beads*. ENAMEL pulverised pays the same duty as whole which is classed with *azuro* (328). PERFORATED BEADS (for necklaces, &c.), cut or not, pay the duty. The class includes beads pierced on one side only, for heads of pins, &c.; glass, perforated or not; spun glass; drops for glass lustres; glass earrings, simply moulded; brooches of coloured or plain glass, and imitation coral. False pearls made of glass, the General Tariff with *mercury*, are in this class in the Treaty Tariff. Crystal beads and crystals. GLASS BUTTONS are classed with *buttons* in the General Tariff.

Note.
499

YARNS.

500 **Hempen and Linen Yarns,†** measuring to the kilogramme,

	0 to 6,000 metres.		6,000 to 12,000.		12,000 to 24,000.	
	General.	Treaty.	General.	Treaty.	General.	Treaty.
Single threads :						
écrus - -	45 60	15 00	57 60	20 00	96 00	30 00
bleached to any degree.	64 80	20 00	79 20	27 00	127 20	40 00
dyed - -	69 60	20 00	84 00	27 00	127 20	40 00
Doubled threads :						
écrus - -	52 80	19 50	72 00	26 00	124 80	39 00
bleached to any degree.	73 20	26 00	97 20	35 10	163 20	52 00
dyed - -	84 00	26 00	103 20	35 10	160 80	52 00
<i>continued.</i>						
	24,000 to 36,000.		36,000 to 72,000.		more than 72,000.	
	General.	Treaty.	General.	Treaty.	General.	Treaty.
Single threads :						
écrus - -	150 00	36 00	198 00	60 00	198 00	100 00
bleached to any degree.	195 60	48 00	254 40	80 00	254 40	133 00
dyed - -	192 00	48 00	240 00	80 00	240 00	133 00
Double threads :						
écrus - -	200 40	46 80	270 00	78 00	270 00	130 00
bleached to any degree.	258 00	62 40	344 40	104 00	344 40	172 90
dyed - -	246 00	62 40	312 00	104 00	312 00	172 90

The quotation is at per 100 kilogrammes net. 4 per cent. is to be added to the amounts in General Tariff, and 8 francs for column d.

For hempen and linen mixed with other yarns, the duties by Treaty Tariff are those of the principal ingredient, and by General Tariff of the ingredient most heavily taxed, or prohibited by the tariff.

⁴⁹⁹ **YARNS.**—This heading includes only yarns of vegetable fibre, or wool or hair (poils) of animals. Silk thread is classed apart. Yarns never measure exactly their assigned length. Erroneous descriptions, made in good faith, are therefore rectified without a penalty. The limit of error mentioned is 5 %.

⁵⁰⁰ **LINEN YARNS.**—The importation is restricted to—1, (by sea), ports where bonded warehouses exist (*ports d'entrepôt réel*); and offices in inland towns where there is a bonded warehouse; 2, (by land) certain specified offices of inland frontier.

Restrictions of PACKING.—Yarns of various kinds or classes should be imported in separate bales or boxes, so that each bale or box should be filled with yarns of one sort. In default of this the customs are authorised to claim the duty of the most heavily taxed yarn without prejudice to the penalties upon false declarations.

Note.

YARNS.

501

1. By Treaty Tariff.

Yarns of Jute,* measuring to the kilogramme,

—	0 to 1,400 metres.	1,400 to 3,700.	3,700 to 4,200.	4,200 to 6,000.	more than 6,000.
Écrus - -	5 00	6 00	7 00	10 00	are taxed as linen yarn.
Bleached or dyed	7 00	9 00	10 00	n. 14 00	

502

Mixed Yarns pay the duty of the *heaviest* ingredient.**Yarns** of phormium tenax, abaca, and other fibres

not mentioned - - - - - 5 % ad valorem.

2. By General Tariff.

501

Yarns of jute, phormium, and abaca.

a. b. c.

502

écrus per 100 kilos. net -

- 72 00

bleached " " " -

- 97 20

dyed " " " -

- 96 00

} add 4 per cent., and
for column (d)
3 francs.**Mixed Yarns** pay the duty of the *most heavily taxed* ingredient.**Spun Fibres**, not mentioned - - - - - are taxed as jute.

The English numeration of threads indicates how many lengths, of 300 yards, go to the pound weight. The thread is arranged in "*leas*" (of 2½ yards circumference, and 120 rounds) that is 300 yards; 12 *leas* of 120 rounds, or 6 of 240 rounds make a *skein*. The skeins are packed in boxes of 100, 50, 25, or 12½, according to the fineness of the thread. Sometimes, however, the *lea* contains 100 rounds instead of 120, sometimes (but rarely) its circumference is 1½ yards or 3 yards instead of 2½ yards. In France the numeration follows the decimal system. No. 1 means 1,000 metres to the kilogramme, and so forth. The English numeration is to the French approximately as 10 to 3. No. 10 English, or 3,000 yards to the pound, is (within 238 metres) No. 3 French, or 3,000 metres to the kilogramme.

YARNS BLEACHED OR DYED.—Every thread that has been bleached, however slightly, is treated as bleached, and its class is then determined by its actual condition. Yarns "*crémés*" are classed as *bleached*, when their colour is that of flax bucked or bleached, and as *dyed* when the yellow hue peculiar to them is artificial, *e.g.*, procured with oxide of iron. These are detected by dropping on them a little hydrochloric acid, and then plunging them into a solution of prussiate of potash. They immediately turn a deep blue if their colour is not natural. While the most that happens, if they are "*écrus*," is that they become a very pale green. Coarse yarns, called "*lunements*," made of bleached tow, and used for manufacture of wicks, are classed as *bleached*. Linen lint in sheets, machine made, is classed with "*single threads of linen yarn, bleached, of 6,000 or less to the kilogramme.*"

DOUBLE THREADS.—All threads twisted or simply doubled, of any number of strands. There are doubled threads of one strand also. The length is determined by the multiplication of the number of metres in a kilogramme, by the number of strands in the thread. This class includes single threads warped, and the yarns known as "*fil de cordonnier*" (shoemaker's thread). The twisted threads, known in commerce as sack tie ("*filles d'emballage*") are treated as yarns, when 1, bleached or dyed, 2, when, being *écru*, they measure more than 6,000 metres to the kilogramme. Otherwise they are classed with *string*.

COTTON YARNS can only be imported through certain specified offices, and are subject to the regulations for packing that apply to linen yarns [cf. Note 500]. The English numeration indicates how many hanks, of 840 yards, go to the pound weight. The French, how many hanks of 1,000 metres go to half a kilogramme. The weight of twisted yarns is valued by multiplying the number of strands by the length. To convert the English classification to French multiply the English No. by 840/35 (thus No. 30 English is about No. 25 French, and so on). The hanks are put up in "*torseades*" of 20 hanks of single yarn, so that the class number divided by 20 indicates how many "*torseades*" go to the pound. In the custom house the *torseades* are counted, and if proved to contain their 20 hanks, of 7 *leas*, of 120 yards each, are passed. But when the yarns are imported on reels, or when there is doubt about the number they belong to, 1,000 metres are measured, as in the case of linen, &c. yarns.

COTTON LINT, in sheets, is classed with single yarns, bleached, of the lowest class. Single and doubled yarns bleached pay 15 % more than *écru*, and dyed pay 25 centimes per kilogramme more

Note.	Cotton threads, unmixed†, pp. 84, 85. 1. By Treaty Tariff.							
503	Measuring per half kilogramme of weight,	Untwisted. <i>Simples.</i>			Twisted in two strands. <i>Retors en deux bouts.</i>			
		Un- bleached. <i>Écrus.</i>	Bleached. <i>Blanchis.</i>	Dyed. <i>Teints.</i>	Un- bleached. <i>Écrus.</i>	Bleached. <i>Blanchis.</i>	Dyed. <i>Teints.</i>	
	Metres.	frs. cs.	frs. cs.	frs. cs.	frs. cs.	frs. cs.	frs. cs.	
	0 to 20,500	15 00	17 25	40 00	19 50	22 40	44 50	
	to 30,500	20 00	23 00	45 00	26 00	29 90	51 00	
	to 40,500	30 00	34 50	55 00	39 00	44 85	64 00	
	to 50,500	40 00	46 00	65 00	52 00	59 80	77 00	
	to 60,500	50 00	57 50	75 00	65 00	74 75	90 00	
	to 70,500	60 00	69 00	85 00	78 00	89 70	103 00	
	to 80,500	70 00	80 50	95 00	91 00	104 65	116 00	
	to 90,500	90 00	103 50	115 00	117 00	134 55	142 00	
	to 100,500	100 00	115 00	125 00	130 00	149 50	155 00	
	to 110,500	120 00	138 00	145 00	156 00	179 40	181 00	
	to 120,500	140 00	161 00	165 00	182 00	209 30	207 00	
	to 130,500	160 00	184 00	185 00	208 00	239 20	233 00	
	to 140,500	200 00	230 00	225 00	260 00	299 00	285 00	
	to 170,500	250 00	287 50	275 00	325 00	373 75	350 00	
	more -	300 00	345 00	325 00	390 00	448 50	415 00	
The quotation is at per 100 kilogrammes net.								
2. By General Tariff.					Unit of Taxation.	General (4 % added).		
503	The duties quoted under the heading General Tariff are; (a.) on European products imported direct from the producing country; (b.) on the same product not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.					100 kilo- grammes.	a. b. c. for d. add 3 frs. per 100 kilos.	
	Untwisted écrus:†							
	from No. 143 upwards - - -						net	840 00
	others - - -						—	prohibited.
	bleached or dyed - - -						—	prohibited.
	Twisted, in two strands							
écrus from No. 143 upwards - - -					net	960 00		
others - - -					—	prohibited.		
bleached or dyed - - -					—	prohibited.		

than unbleached. Doubled yarns écrus pay 30 % more than similar single yarn. MIXED YARNS are prohibited by the General Tariff. By the Treaty Tariff they are taxed as their principal ingredient. WARPED CHAINS are taxed alike, whether they are dressed or not. WASTE OF COTTON YARN. (THRUNS; ends of weaver's threads) are from 108 to 270 millimetres long, but are admitted as waste if they are longer, so that they are obviously destined to be carded or torn. All this kind of waste is taxed as the raw materials it is derived from, except that it is regarded as produced by the country it comes from.

Note.	—	Unit of Taxation.	Treaty (net).	General (4 % added).
	Cotton threads, unmixed† (pp. 90, 91).			
	<i>1. By Treaty Tariff.</i>			
	Twisted, in three strands or more, écrus, bleached or dyed :			
	single twist (<i>à simple torsion</i>) -	per 1,000 metres length.	0 06	
	several twists, twined (<i>à plusieurs torsions ou câblés</i>). -	"	0 12	
	Untwisted, warped chain -			
	écrus - - - -			same as "twisted in two strands."
	bleached - - - -			15 % more than "écrus."
	dyed - - - -			same as "écrus," plus 25 frs. per 100 kilos net.
	Cotton thread, mixed, most cotton†			same as unmixed.
	Waste cotton - - -			referred to General Tariff.
	<i>2. By General Tariff.</i>			
	Twisted, in three strands or more :			
	écrus from No. 143 upwards† -	per 100 kilos. net.	a. b. c. 960 00	d. 963 00.
	all others - - - -			prohibited.
	Cotton thread, mixed (see the Note 503).			
	Waste cotton (thrums or "corons")	per 100 kilos. net.	a. c. exempt	b. d. 3 00

YARNS.

Note.	1. By Treaty Tariff.	Single.		Doubled Thread for Weaving.		Doubled Thread for Tapestry.	
		Bleached or not.	Dyed.	Bleached or not.	Dyed.	Bleached or not.	Dyed.
		Per 100 kilos. net. <i>g</i> This alone is 100 kilos. gross.					
504	Yarns : Of pure wool,* measuring per kilogramme— up to 10,000 metres " 15,000 " " 20,000 " " 30,500 " " 40,500 " " 50,500 " " 60,500 " " 70,500 " " 80,500 " " 90,500 " " 100,500 " more than 100,500 metres.	10 00 <i>g</i> 15 00 20 00 25 00 35 00 45 00 55 00 65 00 75 00 85 00 95 00 100 00	— — — 50 00 60 00 70 00 80 00 90 00 100 00 110 00 120 00 125 00	— — — 32 50 45 50 58 50 71 50 84 50 97 50 110 50 123 50 130 00	— — — 57 50 70 50 83 50 96 50 109 50 122 50 135 50 148 50 155 00	— — — 50 00 70 00 90 00 110 00 130 00 150 00 170 00 190 00 200 00	— — — 75 00 95 00 115 00 135 00 155 00 175 00 195 00 215 00 225 00
	2. By General Tariff.	Prohibited.					
	All the above are prohibited [<i>excepting</i> , Doubled thread for weaving, écrus, long wools, carded, scoured, and singed,† duty per 100 k. n., 840 frs. 00 cts. <i>In both Tariffs.</i> Mixed yarns, <i>see</i> the Note (503).						
505	Yarns of alpaca, lama, vignon,† and camel's hair,† the same restrictions and duties as of wool, excepting that yarns of camel's hair are, in the General Tariff - - - prohibited.						
				Unit of Taxation.	Treaty (net).	General (add 4 %).	
506	" of cow's hair - - -	-	-	100 k. n.	exempt	10 80	
	" of mohair - - -	-	-	-	24 00	24 00	
	" of dog's hair - - -	-	-	100 k. g.	exempt	1 20 -	
	" all others - - -	-	-	—	"	prohibited.	

⁵⁰⁴ Wool that has passed through any preliminary process of spinning is *garn*. **SPUN WASTE** of dyed rags is classed as dyed yarns, if useful without further dyeing, or as écrus if it requires dyeing. The duties on doubled threads for weaving are 30 % above, and the duties on doubled threads for tapestry are exactly twice, those of single yarns (excepting the low numbers). The duties on all the dyed yarns are 25 centimes per kilogramme higher than those on bleached. **WARPED YARNS** are classed with *doubled for weaving*; so are *génappes*, which are doubled thread, glazed and singed with gas. Woollen yarns can only be imported through certain specified offices, and are subject to the same regulations for packing as linen yarns.

WOVEN FABRICS (pp. 96, 97).

508. **Hemp and Flax**, unmixed* (pagos 96 to 99), the warp being composed, per space of 5 millimetres, of the under-mentioned numbers of threads:—

1. *By Treaty Tariff.*

Note.	—	Threads.	5 or less.	8 or less.	9, 10, 11.	12.	13, 14.	15, 16, 17, 18, 19, 20.	21, 22, 23.	More.
509	Plain or diapers:*	per 100 kilos.	5 00	—	—	—	—	—	—	—
	unbleached packing cloth -	gross	28 00	55 00	65 00	90 00	115 00	170 00	260 00	300 00
	others -	net	—	—	—	—	—	—	—	—
	bleached, dyed, or printed -	"	38 00	70 00	95 00	120 00	155 00	230 00	350 00	400 00

2. *By General Tariff* (add 4 %). For column *d.* add 3 francs.

Note.	—	Threads.	7 or less.	8.	9, 10, 11.	12.	13, 14, 15.	16.	17.	18, 19.	20.	More.
509	Plain :											
	unbleached	per 100 kilos. { net.	72 00	96 00	151 20	172 80	241 20	320 40	344 40	356 40	410 40	560 40
	white, cream-coloured, or printed.		108 00	139 20	229 20	262 80	367 20	500 40	548 40	572 40	680 40	980 40
	dyed -		108 00	139 20	175 20	200 40	259 20	346 80	380 40	394 80	456 00	644 40

507 The word *Tissues* in the tariff (woven fabrics) includes all work made of threads, and, therefore, not only fabrics woven with warp and weft, but hosiery ribbons, smallwares, and laces. Tissues taxed ad valorem are only admitted at certain specified offices. The regulations in this respect are extremely complicated, and require great attention [cf. Note 514].

508 FABRICS OF HEMP OR FLAX.—In case of suspicion that cotton goods are being passed as linen, they are boiled in soap, a few threads are unravelled, and if these are more than 40 millimetres in length it is certain that they are not cotton. These goods are admitted to TEMPORARY IMPORTATION unbleached, to

Note.	WOVEN FABRICS. HEMP AND FLAX unmixed.*	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilo-grammes.		a. b. c. for d. add 3 fra. per 100 kilos.
509	Mattress cloth* , of any fineness -	net	as above (509)	254 40
	Oilcloth* :			
	of any fineness, for packing -	gross	5 00	—
	for other uses -	net	15 00	—
	7 threads or less, to 5 millimetres -	"	—	84 00
	8 to 12 threads, " -	"	—	144 00
	13 to 19 " " -	"	—	204 00
	more " " -	"	—	264 00
	painted on a prepared ground -	"	15 00	220 00
	Twilled cloth* :			
	trellis, unbleached -	"	as above (509)	72 00
	" other -	"	(509)	108 00
510	Tickings† :			
	for hangings or bedding -	ad val.	16 % (a)	254 40
	for clothing, unbleached -	"	16 % (a)	386 40
	" other -	"	16 % (a)	436 80

be dyed or printed in France [cf. 198 O.P.]. **PACKING**.—Importations by sea must never have different kinds of goods mixed in one package; the goods may differ in quality as to fineness, but not in kind.

⁴⁹ In counting the threads of the warp, broken threads (not accidental) are counted under the General, but not under the Treaty, Tariff as whole; excepting packing cloth of five threads and a fraction, which is treated as of six threads. Double threads in the warp of sailcloth and doubled or trebled threads in the cloth made for water buckets are reckoned as units. Isolated coloured threads appearing here and there in the web of fabrics entail, under the General Tariff, additional taxation, but not under the Treaty Tariff. **UNBLEACHED ÉCRU** are those fabrics which have not been bleached at all, before or after weaving, and so are of the shades of colour called écreu, specimens of which, for every class, are kept in the Customs Offices for comparison. With them are classed—1, the grayish slate coloured cloths, the natural colour of which has been deepened with pine soot (noir de fumée), or with pounded slate, or by any other process of simple immersion into water which held a colouring substance in suspension; 2, the yellowish cloths from Scotland, which are tinted by means of oxide of iron. All starched cloths and most of the half-bleached linens are to be classed with bleached, also the cloth prepared to be printed, called in Flanders "petite annette," which is écreu on one side and bleached on the other. Cloths painted by any other process than printing are classed as **PRINTED**, excepting those painted on a prepared coating for tapestry. **PACKING CLOTH** under the Treaty Tariff is only allowed five threads in the warp; must be of unmixed hempen or flaxen yarn, and not better than a specified sample. **MATRASS CLOTH**.—The damasked fabrics used for this are classed with *damasked linen*. **OILCLOTHS**.—This class includes all cloths made waterproof without india-rubber or gutta-percha. Cloths painted on a preparation, and painters' canvasses, and floorcloth are classed in the Treaty Tariff with *oilcloth for other uses*; in the same class come those waxed cloths which are lined on one side with flocks of wool. (These are classed in the General Tariff with *woolles carpets*.) Waxed cloths of jute come into this class, especially "linoleum," which is a cloth of jute coated with a mixture of cork and linseed oil. In the **TREATY TARIFF** it is placed with *waxed cloths for furniture*. ⁵⁰ With **TICKINGS FOR CLOTHES** are classed the fabrics of which the threads of the warp are double or triple. They are used for trousers, and are as thick as ticking.

⁵¹ (a) Optional duties on English tickings, plain or fancy figured, unbleached, bleached, dyed, or printed (at importer's option).

The warp containing, per space of 5 millimetres:—

	Threads.	8 or less.	9, 10, 11.	12, 13, 14.	More.
du are unbleached -	} per 100 kilo- grammes, net {	35 00	55 00	90 00	115 00
are 25 double, yarns can packing as 1-		47 00	70 00	120 00	155 00

Note.	WOVEN FABRICS. HEMP AND FLAX UNMIXED.*	Treaty (net).
1. <i>By Treaty Tariff</i> (pp. 101 and 103).		
511	Table linens, common* - - -	same as 509.
	" damasked† - - -	16 % ad valorem.
512	Pocket handkerchiefs, with borders,	
	" " embroidered† -	10 % ad valorem.
	" " not embroidered* -	} same duties as plain
513	Cambric and lawn* - - -	} linens.
514	Lace* - - -	5 % ad valorem.
515	Bobbin-net,† smallwares,† tapes unbleached,	15 % ad valorem.
516	bleached, or dyed,† hosiery†.	
517	Thick fabrics for carpets* - - -	same duties as other
		cloths.
518	Clothes and other articles wholly or partly made	
	up†—	
	in ticking or damask linen - - -	16 % ad valorem.
	in other fabrics - - -	15 % "
	Articles not mentioned† - - -	15 % "
519	Mixed linen and other goods more than half	
520	(in weight) linen† - - -	15 % "

⁵¹¹ TABLE LINEN.—If the warp is *écru* and the weft bleached or dyed, taxation follows the weft. Cut and hemmed goods are classed as *MADE UP*. With DAMASKED TABLE LINEN are classed all other damasked linens.

⁵¹² POCKET HANDKERCHIEFS, hemmed, are classed as *made up goods*, but embroidered and hemmed are classed, in the Treaty Tariff, as *embroidered* only. It is no matter whether it is the border only, or the whole handkerchief, that is embroidered. Handkerchiefs of cambric trimmed with lace are classed as *lace*, if the cambric is less in surface and in value than the lace. Linen handkerchiefs bordered with cotton thread are classed as *linen*. For those with printed borders or borders of coloured threads see Note 509.

⁵¹³ Cambrics and lawns made in one continuous piece, and those with borders at intervals for cutting up into handkerchiefs, are taxed alike.

⁵¹⁴ Bobbin-net and lace [cf. Note 523]. The restrictions of entry on *ad valorem* tissues do not apply to this class [cf. 507]. *Guipures* are classed as *lace*, but a kind called *guipure de Cluny*, made on a bobbin-net machine, is classed with *bobbin-net*.

⁵¹⁷ THICK FABRICS FOR CARPETS.—In the General Tariff these are made a special class, in which are included:—1. Carpets of Manila hemp, of jute, of pita, &c., dyed or undyed. 2. Small mats of coir yarn, with or without woollen borders, lined with hempen canvas. In the Treaty Tariff this class [517] is not separated from other cloths, and the above carpets and mats are classed as *vegetable tissues not named*. COCOA-NUT MATTING, with corded canvas or without canvas, is classed in both Tariffs with *basket work* (584).

⁵¹⁸ This class includes all linen goods, excepting *hosiery* and *smallwares*, which are either made up or in hemmed or seamed pieces [cf. Note 512]. BY THE GENERAL TARIFF new clothes pay the duty of the linen they are made of; and linen for personal wear, for bed, table, or kitchen, the same plus 10 %. A special tax is imposed on *old clothes* imported for the trade in them [699]. Other made up articles follow the rule of new clothes, including *ships' sails* and *new sacks* imported empty. *Used sacks* are taxed 18 % ad valorem. BY THE TREATY TARIFF, *new sacks* are taxed at importer's option either as *made up goods* or as the tissues they are made of; *used sacks* are exempt, and other made up goods pay the taxes mentioned in the tables; whereby *ships' sails* pay 15 % ad valorem. Sacks imported empty for the export of French produce are admitted conditionally free [cf. 186 O.P.] Worn out linens, and surgical, are classed as *paper rags* [cf. Notes 233 and 693.]

⁵²⁰ MIXED FABRICS.—Linsens mixed with woollen or hair or cotton are prohibited BY THE GENERAL TARIFF. (The few exceptions are especially named in the tables.) Mixed with silk, jute, or other tissues not prohibited, they pay either the specially fixed duties on certain mixtures of silk and other yarn or the duty on the ingredient most heavily taxed. BY THE TREATY TARIFF, if the other fibres predominate, the tables must be referred to under the heading of mixtures of those fibres. Tissues formed of warp flax or hemp and weft of jute are treated as unmixed goods of the predominating fibre, and are admissible at all offices established to receive duties of more than 20 francs per 100 kilogrammes.

Note.	WOVEN FABRICS. HEMP AND FLAX.*
	2. <i>By General Tariff, pages 100, 102.</i> (Add 4 %; for column <i>d</i> add 3 francs.)
511	Table linen , containing in the warp, per space of 5 millimetres—

—	Threads.	16 or less.	17.	18, 19.	20.	More.
Common, un-bleached.	100 k. n.	320 40	344 40	356 40	410 40	560 40
Common, bleached	„	500 40	548 40	572 40	680 40	980 40
Damasked, un-bleached.	„	384 48	413 28	427 68	492 48	672 48
Damasked, bleached.	„	600 48	658 08	686 88	816 48	1,176 48

512 | **Pocket handkerchiefs** - - - same duties as other cloths.

Note.	—	Unit of Taxation.	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilogrammes.	a. b. c. for d. add 3 fr. per 100 kilos.
513	Cambric and lawn - - -	net	3,000 00
514	Lace - - -	ad val.	6 %
„	Bobbin-net - - -	—	prohibited.
515	Smallwares and tapes:		
	unbleached, " <i>bis ou herbés</i> " - - -	net	96 00
	„ partly white - - -	„	144 00
	white - - -	„	144 00
	dyed, partly or wholly - - -	„	180 00
	Openwork tapes - - -	„	600 00
516	Hosiery - - -	„	240 00
517	Thick fabrics for carpets, dyed, 7 threads or less, by 5 millimetres.	„	90 00
518	Clothes and other articles wholly or partly made up.	See the Note [518].	
519	Articles not mentioned - - -	the duties of the material they are made of.	
520	Mixed fabrics - - -	See the Note [520].	

* Cotton threads, appearing only as selvages, are not considered as a mixture. Waxed cloths of jute are classed with linen [cf. Note 508]. *Sacks of jute* lined with paper pay duty as jute fabrics, and also the internal tax on the paper [cf. Note 504]. *Printed fabrics* are classed with dyed. The regulations respecting packing fractions of thread, &c. are the same for jute as for linen goods [cf. Notes 508, 509]. for empty sacks [cf. Note 518], for mixed fabrics [cf. Note 520].

WOVEN FABRICS.

The duties quoted under the heading **General Tariff** are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.

1. By Treaty Tariff.

Jute, unmixed,* containing in the warp per space of 5 millimetres:—

—	Threads.	3 or less, Plain.	3 or less, Twilled.	4, 5.	6, 7, 8.	More.
Unbleached	100 k.	10 00 g.	12 00 n.	16 00 n.	24 00 n.	Same as linen.
Bleached or dyed.	100 k. n.	15 00	17 00	23 00	35 00	Do.

					100 kilo- grammes. net	24 00
522	Carpets	-	-	-	ad. val.	15 %
523	Mixed fabrics , principally jute†	-	-	-	„	10 %
	Fabrics of phormium tenax, abaca, &c., and Other vegetable fibres not named (including bark, palm fibre, and all other kinds), unmixed or mixed (the phormium, &c. predominating in the mixture)†.	-	-	-		

2. By General Tariff (add 4 %).

JUTE, PHORMIUM, or ABACA,* unmixed.

Containing in the warp per space of 5 millimetres:—

—	Threads.	7 or less.	8.	9, 10, 11.	More.
Unbleached	- } per100	{ 92 40	108 00	154 80	Same as linen.
Bleached	- } kilos.	{ 128 40	151 20	232 80	„
Dyed	- } net.	{ „	„	178 80	„

521	Carpets of the above fibres	-	-	90 francs per 100 kilos., net.
	Mixed fabrics	-	-	follow the rules of Note 520.
522	Fabrics of vegetable fibres not named.	-	-	are classed as jute [cf. Note 522].
523	Fabrics of bark , unmixed or mixed	-	-	are prohibited, <i>see</i> the note.

⁵²¹ For mats of cocoa-nut fibre [cf. Note 517] Small wares of pits are classed as linen.

⁵²² Excepting those made of palm fibre,* which are treated as *basketwork* (534), or *linen*, according to the fineness, *i.e.*, 3 threads per 5 millimetres are taxed as *basketwork*, 0·54 per square metre.

Note.	WOVEN FABRICS.				
	COTTON, pp. 104, 105.				
	1. <i>Treaty Tariff.</i>				
	No. of Warp and Weft Threads per 5 Millimetres Square.	Weight per 100 Square Metres.	Duty per 100 Kilos. (net).		
			Unbleached. Écrus.*	Bleached.*	Dyed.*
524, 525	Unmixed: plain, tweeled, or tickings:—	kilogram- mes.	frs. cs.	frs. cs.	frs. cs.
	1 to 35 - - -	11 or more	50 00	57 50	75 00
	36 or more - - -	"	80 00	92 00	105 00
	1 to 35 - - -	7 to 10	60 00	69 00	85 00
	36 to 43 - - -	"	100 00	115 00	125 00
	44 or more - - -	"	200 00	230 00	225 00
	1 to 27 - - -	3 to 6	80 00	92 00	105 00
	28 to 35 - - -	"	120 00	138 00	145 00
	36 to 43 - - -	"	190 00	218 50	215 00
	44 or more - - -	"	300 00	345 00	325 00
	and weighing less than 3 kilogrammes per } 15 % ad val. 100 square metres; or <i>printed</i> † - }				
			Unit of Taxation.	Treaty Net.	
	Cotton, unmixed—cont.		100 kilo- grammes.		
526	velours,* velvets, écrus - - -	-	net	85 00	
	" " dyed or printed - - -	-	"	110 00	
	other (velveteens, cords, moleskins, &c.) écrus	-	"	60 00	
	" " " dyed or printed - - -	-	"	85 00	
527	embroidery, hand or machine made† - - -	-	ad val.	10 %	
528	lace* - - -	-	"	5 %	
529, 530	faconnés, quiltings, dimity, damasked, bril- lantés;† bobbin-nets, plain or embroidered;† couvertures.†	-	"	15 %	
531	gauzes and muslins, embroidered or figured for furniture hangings, or clothes.†	-	"	10 %	
532	oilcloths,* for packing - - -	-	gross	5 00	
	for furniture or other uses - - -	-	net	15 00	
533	clothes and articles wholly or partly made up†	-	ad val.	15 %	
534	articles not mentioned† - - -	-	"	15 %	
535	Mixed cotton and other goods, most cotton† -	-	"	15 %	

* With the few exceptions mentioned all cotton tissues are, by the General Tariff, prohibited. For the regulations for packing [cf. Note 508].

† PLAIN, TWEELLED, OR TICKINGS.—This class includes all plain or twilled fabrics, from the heaviest cloth to the lightest muslin, whether they are woven altogether of single threads, or contain, in the warp

Note.	WOVEN FABRICS.	Unit of Taxation.	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilogrammes.	a. b. c. for d. add 3 frs. per 100 kilos.
	2. General Tariff.		
525	Cotton, unmixed: plain, tweeled, or tickings:— Nankin, product of India** - - net " " column (d) - - " " other - - - all other goods - - -		100 00 110 00 prohibited. prohibited.
528	(except) lace, cushion or spindle* and bobbin-net trimmed with lace. Mixed , cotton and other goods (cf. Note 524) -	6 % —	ad. val. prohibited.

or weft, doubled or twisted threads. The only exceptions are the English goods called *belting duck* and *cotton sail duck*. These fabrics, made of twisted threads of high numbers, and used for machinery bands and for ships' sails, are classed with *articles not mentioned* [534]. The Treaty Tariff is regulated by:—1, the number of threads, in warp and weft, in five millimetres square; 2, the weight of the fabric; 3, measurement. In trouser stuffs, of which the threads of the weft are generally arranged in pairs, and in other fabrics containing doubled or twisted threads, each doubled or twisted thread is counted for two. Bleached fabrics pay 15 % more than écus, and dyed pay 25 centimes per kilogramme more than écus. Tissues woven of bleached threads, or bleached to any degree at all, are classed as *bleached*, and those woven, partly or altogether, of dyed threads as *dyed*. This remark affects shirtings and so-called Calcutta handkerchiefs, which show regular patterns resembling printing. Tissues dyed and figured are classed as *dyed*, but figured and gummed as *articles not mentioned*. Tweeled cottons woven with a nap are still classed as *tweeled*; and, in the same way, plain cottons woven in pieces, the weft being left like a fringe, at the place where they are to be divided for shawls, are classed as *plain*. Painted are classed as *printed* (excepting painted on a preparation for tapestry), so are dyed with printed stripes. For fractions of threads, isolated coloured threads, handkerchiefs with printed borders, &c., see [Notes 509 and 512].

⁵²⁵ Velours, bleached, are classed with *dyed*; cotton velvets, embroidered with silk or floss-silk, are classed with velours not embroidered. Cut strips of velvet are classed, as ribbons, with *articles not mentioned*.

⁵²⁷ EMBROIDERY.—All E. of cotton on linen or cotton, excepting E. on cotton gauzes and muslins (cf. Note 531), and on bobbin-net (cf. Notes 514, 530); in the Treaty Tariff, also E. in wool, silk or floss-silk, on linen or cotton; are in this class [cf. 528].

⁵²⁸ LACE.—*Imitation l.* made on the loom is classed with *bobbin-net*. Guipures and crochet work, of a fineness resembling l., are classed as *lace*. Coarser work with 534. Lacework, of imitation gold or silver and cotton thread, is classed with *work in metals, gilt, &c.* [cf. Note 688]. Bobbin-nets are distinguished from lace by the regularity of their meshes, or by the ease with which the meshes can be enlarged, or by the length of a single thread drawn out.

⁵²⁹ FAÇONNÉS is the generic name for this class, and includes generally all products of the Jacquard loom. The other kinds named are varieties of *façonnés*.

⁵³⁰ Bobbin-nets trimmed with lace are classed as *lace* [cf. 527, 528], b. of silk or floss-silk mixed with cotton are classed as their principal ingredient.

⁵³¹ This class taxes alike hand or machine work, and cotton, wool, or silk, and work on plain muslin and on figured muslin. Plain gauzes and muslins are classed with *plain cottons*.

⁵³² Compare [Note 509].

⁵³³ Compare [Note 639, 518]. This class includes petticoat frames of steel covered with cotton, hung together in circles by cotton tapes, and ready for use; also straw hats covered with cotton cloth, waxed, and lined, or not, with cotton inside. Worn out cotton clothes are classed with *rags for paper*.

⁵³⁴ Includes hosiery, smallwares, ribbons, canvas with designs in velvet for embroidery, &c.

⁵³⁵ Is exhausted in the extracts made from previous notes.

Note.	WOVEN FABRICS OF WOOL, HAIR, &C.	Unit of Taxation.	Treaty net.
	1. <i>By Treaty Tariff</i> , p. 109.	100 kilo-grammes.	
536, 537	Carpets, of all kind†; and rug† - - -	ad val.	10 %.
538	Cloth list, of all kinds - - -	—	exempt.
to 543	List shoes,† hosiery,† small wares,† tapet, lace,† ferrandine, bolting cloth, other woollen fabrics.†	ad val.	10 %.
544	Woollen goods not named† - - -	"	10 %.
545	Clothes and made-up goods : new† - - - old* - - -	" net	10 % 20 00
546	Mixed woollen and other tissues† are taxed the same as their heaviest ingredient would be unmixed.		
547	Tissues of alpaca, lama, vigonia,† and camel's hair,† unmixed, or mixed in any proportion with wool, or forming the heaviest part of mixtures with other fabrics, are taxed as woollen.		
549	Shawls and scarfs of Indian cashmere† -	ad val.	5 %.
548	Other tissues of goat's hair† are taxed as woollen.		
	Tissues : of cow's hair, pure or mixed† - - - of other hair (<i>poils</i>) see the General Tariff.	"	10 %.
550	Horsehair webs : pure or mixed, in tresses* - - - (or, at option of the importer)	net ad val.	160 00 10 %.
	" other† - - -	"	10 %.

⁵³⁶ Fabrics of wool, unmixed or mixed with cotton, silk or hair are admitted to temporary importation in pieces for dyeing. CARPETS include woven tapestry hangings, such as Gobelins and Beauvais, made in pieces of which each piece contains one complete design. Tissues with repeated patterns are [543]. Felts printed for carpets are classed as felts, and tapestry worked by hand, or with the needle on canvas are woollen goods not named. Carpets of earlier date than the 17th century are free as objects for collections. The General Tariff divides carpets into two classes, *single* and *knotted*. In the first it includes,—1. Carpets with warp of hemp or flax on a canvas called "Moquettes;" these are generally thin carpets with repeated patterns, made in the piece, to be sewn in widths to any required size. There are two sorts, *velveted* and *épinglées*. Of the latter, the wool that covers the thread of the warp is not cut to form velveting or plush. A thread drawn from the weft of the *moquettes veloutées* brings with it the bits of wool wound round it which form the velveting. 2. Other carpets of single web, without canvas, either all wool or mixed. In the *knotted carpets* every thread of wool is attached to the warp with a knot; they are made of horizontal or perpendicular (low or high) warp, of one piece, the whole carpet forms therefore one pattern. Such are Aubusson and Turkey carpets. Joined carpets in a border are classed with *knotted carpets*. Their class in the General Tariff includes:—1. *Oiled serges*, printed, either in pieces or in small carpets. 2. *Oilcloth*, not cotton, with back of flocks of wool. The Treaty Tariff, however, ranges the former with *woollen goods not named*, and the latter with *oilcloth*. By *Oriental countries* are meant all Asiatic countries, excepting Turkey in Asia and Persia. Turkey, by the Treaties, pays only 10 % on carpets imported direct from Turkish possessions in Asia or from Constantinople; imported from other places they are subject to an additional tax of three francs per 100 kilogrammes. The same remarks apply to Persia.

⁵⁴⁷ Tissues of the same kind as rugs, but made in the piece like cloths, are [543]. Horse rugs in use are free, if obviously not new.

⁵⁴⁹ Stocking nets woven in the piece are [543]. 540 cf. [Note 515].

⁵⁴⁸ This class includes the *felts* wrapped round the cylinders in paper-making in the General Tariff. In the Treaty Tariff they are classed as felts. 540. *Made by hand* includes made with spindle, or other implements, or on a loom worked by hand. Mixtures of cashmere follow the same rules as other mixed tissues; but cashmere fabrics embroidered with gold or silver (real or false), or with silk or

Note.	WOVEN FABRICS.	Unit of Taxation.	General (4 % added).
	<i>2. By General Tariff.</i>		
536	Woollen carpets : made in Turkey,† or Tunis,† or Morocco,† and imported direct. made in Oriental countries, and not imported through a European port.† made in other countries :— 1, single, with warp of hemp or flax, and backed with a canvas, the meales of which are 40 by 50 to the decimetre. moquettes veloutées (such as Wilton and Axminster) :— a. imported by way of Dunkirk and Lille. b. imported by any other office.* other moquettes* (such as Brussels carpets). single, other kinds, of pure wool or wool and other yarn, but not backed with a canvas.* 2, knotted, with other warp than hemp or flax.* " with warp of hemp or flax*	ad val. " " 100 kilogrammes. net " " " " " "	a. b. c. for d. add 3 frs. 15 % 15 % 300 00 360 00 360 00 600 00 600 00 360 00
537	Woollen rugs,* p. 108 - - - -	net	240 00
538	Cloth list, uncut - - - -	—	prohibited.
	" cut [<i>see Note 18</i>].		
539	List shoes, hosiery, lace - - - -	—	prohibited.
540	Small wares and tapes* : of pure wool, white - - - - " dyed - - - - mixed with yarn, wool, and hair - - - -	net " "	228 00 264 00 264 00
541	Ferrandine,† bolting cloth, seamless* - - - -	"	240 00
545	Made-up clothes, new, are taxed as <i>woollen fabrics.</i>		
546	Other woollen goods of every kind - - - -		prohibited.
547	Tissues : of alpaca, lama, and vionia are taxed as <i>woollen.</i>		
548	of hair (<i>poils</i>) cashmere, made by hand in a country out of Europe.*	ad val.	5 %
549	" " rugs or carpets* - - - -	net	60 00
	" " hosiery,* beaver - - - -	"	480 00
	" " other naps - - - -	"	240 00
	" " any other kind - - - -		prohibited.
550	of hair* (<i>crin</i>) haircloth for sieves - - - -	net	49 20
	" " small wares - - - -	"	180 00
	" " hats - - - -	each	0 30
	" " any other kind - - - -		prohibited.

Note.	WOVEN FABRICS.	Unit of Taxation.	—
	The duties quoted under the heading General Tariff are; (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.		
	551 SILK, pages 110 to 113.		
	1. Treaty Tariff.		
552 to 559	Tissues , hosiery and lace of pure silk,* crape, <i>façon d'Angleterre</i> , écreu, black or coloured,* bobbin-net, plain or figured, écreu or prepared.*	—	exempt.
561	Silk ribbons:		
	velvet* - - - - -	1 kilo. net	5 00
	others* - - - - -	"	4 00
562	Tissues:		
	smallwares and lace, of silk with gold or silver* fine.	"	12 00
	half-fine or false - - -	"	3 50
	Silk:		
	mixed with floss silk* is taxed as <i>floss silk</i> .		
	" other textures (most silk).		
	ribbons, velvet* - - -	"	5 00
	" others† - - -	ad val.	10 %
	other articles* - - -	1 kilo. net	3 00
563	Clothes , and made-up goods* pay the tax of their heaviest ingredient.		
560	Tissues of pure floss silk , écreus, white, dyed, or printed*.	"	2 00
561	Floss silk ribbons:		
	velvet* - - - - -	"	5 00
	others* - - - - -	"	4 00
562	Tissues of floss silk, mixtures:		
	tissues and small wares, with gold or silver:*		
	fine - - - - -	"	12 00
	half-fine or false - - -	"	3 50
	with silk,* is taxed as 560.		
	with other textures (most floss silk).		
	ribbons, velvet* - - -	"	5 00
	" others† - - -	ad val.	10 %
	other articles* - - -	1 kilo. net	3 00
563	Clothes and made-up goods,* (see Note 563).		

other material, are classed as unmixed; also even when they contain some threads of cotton. Camere fabrics made otherwise than by hand, or in Europe, follow, in both Tariffs, *other tissues of good hair*. Those in 549 may be entered at all the offices open to the transit of prohibited goods [155 O.P.]

⁵⁵⁰ The Treaty Tariff includes in this class sieves and brooms, which are classed by the General Tariff with *Merceries*.

⁵⁵¹ Mixed webs follow the usual rules.

⁵⁵² No difference is made in respect of foulards woven in divisions for cutting up into handkerchiefs. In the General Tariff f. made of silk naturally white are *écreus*, but f. of bleached silk are *bleached*. Dyed f. are classed with *printed*, figured f. called damasked, écreu or not, are classed as *printed*. Foulards imported écreu in the piece, to be printed and re-exported, are admitted to temporary importation free (196 O.P.)

Note.	WOVEN FABRICS.	Unit of Taxation.	General (4 % added)
	<p>The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.</p> <p>2. General Tariff (add 4 %).</p> <p>SILK.*</p>		
552	Foulards :	(k. n. = kilos. net.)	a. b. c. for d. add 3 fra. per 100 kilos. unless quoted.
	of Indian manufacture	100 k. n.	exempt.
	of other origin, écrus	"	840 00
	" printed	"	1680 00
553	Crapes :		a. c. b. d.
	plain	1 k. n.	2 00 25 00
	embroidered or figured	"	34 00 40 00
	Other tissues :		c. d.
551	not European goods	"	exempt 0 25
	European goods, unmixed :		a. b.
554	silk stuffs, plain	"	19 20
	" figured or embroidered in silk	"	22 80
	" couvertures "	100 k. n.	244 80
	" tapis "	"	367 20
555	gauze	1 k. n.	37 20
559	bobbin-net		prohibited.
557	lace, called blondes	ad val.	18 %
556	hosiery	1 k. n.	14 40
556	small wares	"	19 20
561	ribbons, including velvet	"	9 60

⁵⁵² *Crêpes de Chine*, plain in shawls, or in the piece, are admitted free for temporary import, to be embroidered, dyed, or printed (198 O. P.)

⁵⁵⁹ *Bobbin-nets*, in silk and floss silk, or in silk and cotton, are classed, in the Treaty Tariff, as *of pure silk*.

⁵⁵⁵ *Tissues* of floss silk, in the piece, are admitted free, for temporary import, to be printed (198 O. P.)

⁵⁶¹ Ribbons with a selvage of cotton; or containing in the warp a few linen threads, are classed as pure silk. Plain ribbons are not distinguished from those brocaded with silk, or gold, or silver. Strips of silk cut from the piece for cravats, &c. are classed as *tissues*, not as ribbons; and borders for binding silk or felt hats, are *small wares*. With *ribbons* are classed: 1, strips of velvet woven in the piece, to be used as ribbons when simply cut off with scissors; 2, ribbons figured, for women's girdles; 3, strips of silk arranged in festoons to be used as ribbons; 4, ribbons arranged in festoons for ornaments to collars, or for making braid. Ribbons in chenille are classed with *ribbons, velvet*. Velvet ribbons of silk and cotton are admitted in the Treaty Tariff, if mostly silk, as *silk*. In the General Tariff they are prohibited.

⁵⁵⁶ Mixtures, in the Treaty Tariff, follow the heaviest ingredient. By the General Tariff those mixed with linen, unless specially named, are classed as *all silk*, the same rule applies to mixtures with pita, china grass, or other fibres which are not prohibited as *tissues*, but mixtures with cotton or wool are prohibited. For mixtures of extra-European manufacture [see *Note 551*] for coarse tissues of floss silk and cotton waste for cleaning machinery, see 509.

Note.	PAPER AND ITS USES.	Unit of Taxation.	Treaty (net).	General (4% added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.			
564	Paper and its uses. Pages 114, 115.	100 kilogrammes.		a. b. c. for d. add 3 frs. per 100 kilos.
565	Board, in sheets, every kind †	gross	8 00	—
	" " millboard, pulp of paper.	net	—	180 00
	" " glazed, for pressing cloth.	"	—	96 00
	" " other - -	"	—	180 00
566	" papier mâché,* boards cut and joined. †	ad val.	10 %	—
	" papier mâché* - -	net	—	240 00
567	" cut and joined † - -	"	—	120 00
568	" albums† - -	"	60 00(a)	120 00
	(a) option of 10 % ad val.			

PAPER AND ITS USES.—The following *internal manufacture tax* is subject to 4 per cent. addition:—

1st CLASS. On cigarette paper, silk papers, tissue paper, paper parchments of every kind and colour, 15 francs per 100 kilos. *net*.

2nd CLASS. Letter paper of every kind and shape, 11 francs per 100 kilos. *net*.

3rd CLASS. All papers and boards manufactured of white or bleached pulp entirely, or of a mixture thereof with pulp naturally coloured, 10 francs per 100 kilos. *net*.

4th CLASS. Common foolscap, or coloured papers made with common foolscap, and paper and board of a pulp naturally coloured, with or without the addition of artificial colouring, 5 francs per 100 kilos. *net*.

Deductions, on a fixed scale, are made from the above duties in respect of paint, glazes, gildings, and other foreign substances which add to the weight of certain classes of paper. The tax applies to all kinds of printed or manufactured or packing paper, and even to packing paper in actual use when its contents are liable to an internal tax. Useless old paper for paper making is exempt. Newspapers imported otherwise than by post pay the tax; all political papers, and papers non-political but published oftener than weekly, are further taxed 20 fr. 80 cs. per 100 kilogrammes. Manufactures of paper and other material pay only for the weight of their paper. Papier mâché is exempt, so are, 1. all books and engravings more than 50 years old; 2. books, maps, &c. published in Treaty countries before the 4th September 1871; 3. private libraries; 4. books sent round gratuitously to learned men. Special regulations affect the *transit* and *export* of paper goods, and the *import* is restricted to offices open to the transit entry of non-prohibited goods. This restriction does not affect *papier mâché*, nor manufactures in which paper is not the principal material.

BOARDS made of rags are not distinguished from those made of pulps of wood, straw, and other vegetables, if the goods are finished fit for use; but when the latter are imported in a pulpy state charged with water, they are classed with *rags for paper*. Or finished manufactures of the vegetable pulps may be transferred to that class, on being destroyed at the custom house, or sent under guarantee to a paper mill. With cardboard is classed—enamelled paper, the cards covered with white lead or impalpable ivory powder, called in commerce "artificial ivory," used in the toy trade; gelatine in sheets, dyed or not; board made from leather parings; board bituminised or tarred, but not those products, sometimes so called, which are made of a sort of felt, or compressed mixture of textile substances saturated with tar; paper coated with india rubber; board in sheets for veneering; printed or coloured b. are *labels*.

PAPIER MÂCHÉ includes—1. light pictures (lithophany) which have to be approved by the local authorities before they pass the customs. 2. Hats made of thin sheets of cardboard in imitation of straw. Metal ornaments on papier mâché goods are not regarded if not essential. Dolls and dolls' heads in papier mâché are *toys*; masks are *mercery*; tables with wooden legs are *furniture* [cf. Note 564] but objects made of solid sheets of board are not classed as papier mâché.

Admits envelopes and blank visiting cards, of enamelled paper; board prepared for the Jacquard loom; strips of board in imitation of leather, figured, &c. for garnishing hats; squares of gummed paper cut out for ornaments to books; paper boards, silvered or made to represent leather, punched to use instead of canvas in various kinds of tapestry work; and, in the *Treaty Tariff*, star-shaped winders, visiting cards engraved, printed, or lithographed, and those of enamelled paper, which the *General Tariff* classifies with *mercery*. Card boxes containing samples are exempt.

Ornaments of the precious metals on ALBUMS would be *goldsmith's work*. Albums bound or covered with mother-of-pearl, ivory, or tortoise shell would be *fancy goods*.

Note.	PAPER AND ITS USES.	Unit of Taxation.	Treaty (net).	General (4% added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilogrammes.		a. b. c. for d. add 3 francs per 100 kilos.
	Paper and its uses—cont.			
569	Papers of every kind † [Treaty] -	gross	8 00	—
	„ white, or ruled for music -	net	—	180 00
	„ coloured, for bindings -	„	—	108 00
	„ for envelopes, coloured pulp -	„	—	96 00
	„ painted, in rolls, for hangings -	„	—	150 00
	„ silky - - - - -	„	—	120 00
570	Books, † excepting counterfeit editions. By Treaty.	—	exempt	—
	„ in dead or foreign languages.			
	„ almanacks - - - -	net	—	120 00
	„ other - - - - -	„	—	12 00
	„ in French, printed in Canada	—	—	exempt.
	„ „ scientific treatises	net	—	60 00
	„ „ others, published abroad.	„	—	120 00
	„ „ reprints of French editions.	„	—	180 00
	„ counterfeit editions -		prohibited.	
571	Engravings and lithographs; † maps	„	exempt	360 00
to	and charts; † engraved music; †			
574	labels, printed, engraved, or coloured. †			
575	Playing cards † - - - -	ad val.	15 %	prohibited.
	Tubes and pipes of paper and bitumen. †	gross	—	1 00

⁵⁶⁹ PAPER.—No distinction is made between paper made of rags and paper made of other substances. The Treaty Tariff takes in as *paper*, figured paper, gilt or silvered, ornaments made thereof, and note books bound in Morocco, all of which in the General Tariff are *mercery*. Waste paper is *rags for paper*. Papers medically prepared, and arsenicated paper for fly-catching are classed as *compounded medicines*.

⁵⁷⁰ BOOKS are subject to a censorship besides the customs. Illustrated books are distinguished from books written to explain the illustrations; the latter are classed with *engravings, &c.* Pamphlets, posters, circulars, &c. are subject to the same rules and duties as *books*. Books can only be imported at certain specified offices. Special rules affect their delivery at Paris: their identification for admission; their form of binding, &c. Private collections pass free.

⁵⁷¹ Designs or drawings on woven fabrics are *printed cloths*. The assent of the local authorities is required for their admission; they are generally subject to the same regulations as books (cf. 570).

⁵⁷² Maps in books illustrating the text are classed as *books*. The cloths, &c. on which maps are mounted are not taxed. Maps are, in other respects, subject to the same regulations on admission as *engravings*.

⁵⁷³ Playing cards must not be of any French patterns, these being a monopoly of the State; they must not be silvered nor of the same size nor design as the French; they must show no other name than that of the manufacturer, and the ace of spades must not be encircled with any ornament. Besides customs and the paper tax they are taxed 8½ centimes per pack. Children's packs not larger than 80 millimetres by 30, and made of a single thickness of coarse paper, are exempt from this last tax.

Note.	IN VARIOUS MATERIALS.	Unit of Taxation.	General 4 % added.
	PREPARED HIDES, pp. 116, 117.		
	1. By Treaty Tariff.	100 kilo-grammes.	
576	Lamb and kid skins, in nap* - - -	— {	referred to
	Parchment and vellum, crude or finished	— {	General
	Other skins:*		Tariff.
	enamelled or morocco - - -	net	60 00
	dyed, sheep skins - - -	"	45 00
	" other skins - - -	"	60 00
	not mentioned - - -	gross	10 00
	2. By General Tariff.		
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European products imported direct from any place out of Europe; (d.) on the same imported from European ports.		
	Lamb and kid skins, in nap:*		a. b. c. for d. add 3 frs. per 100 kilos.
	in puer - - - - -	per 100	3 00
	tawed - - - - -	"	3 60
		100 kilo-grammes.	
	Parchment and vellum, crude or finished	gross	exempt.
	Swans' and geese skins for fans* -	net	734 40
	Russia leather* - - - -	"	80 00
	Tanned:*		
	goat skins - - - -	gross	10 00
	pig skins - - - -	net	240 00
	other large skins - - -	"	54 00
	" small skins - - -	"	144 00
	Tanned and curried:*		
	for legs of boots, toes, heels, and upper		
	leathers - - - -	"	240 00
	other - - - -	"	120 00
	Alumed:*		
	Hungarian - - - -	"	48 00
	tawed - - - -	"	60 00
	Other kinds - - - -	—	prohibited.

⁵⁷⁶ The class includes "*split*," and generally all hides and skins prepared in any manner. The following exceptions exist: hides of cattle, goats, sheep, &c., merely depilated in lime, are classed as *raw* (cf. Note 12) when they are whole, with the skin of the head, tail, and hoofs attached: also *buffalo hides* treated with lime, rubbed, depilated, and dried for the manufacture of weavers' pickers. *Hide scrapings* are [44]. *Curried hides*, waxed or blacked, are classed as simply *curried*, but when they have been varnished or dyed they are (in GENERAL TARIFF) *prohibited*. In the TREATY TARIFF curried leather shaped as boot legs, upper leathers, backs and fronts are classed with *other skins not mentioned*. *Russia leather* is classed in the TREATY TARIFF with *other skins, dyed, not sheep skins*. Vellum covered with chalk and glue, called *asses' skin*, is classed as *vellum*. Parchments and vellum with writing on them remain in the same class. *Vegetable parchment*, so called, which is paper chemically prepared, is classed with *white paper* [500].

Note.	IN VARIOUS MATERIALS (pp. 116, 117).	Unit of Taxation.	Treaty (net).	General (4 % added).
577	Hides or leather goods: saddlery, coarse, pack saddles, without leather. " other* - - - leather bottles, empty - - - gloves* - - - flasks, purses, cigar and similar cases* (b.) or 10 % ad valorem at importer's option. goods not mentioned*	100 kilogrammes. ad val. " " " net ad val.	10 % 10 % 10 % 5 % 60 00 (b) 10 %	a. b. c. for d. add 5 fra. per 100 kilos. 0 60 each. prohibited. 12 % prohibited. Mercery see the Note. prohibited. 18 %
578	Furrier's manufactures* - - -	"	—	18 %
579	Felts: of all kinds† - - - [Treaty] hats and silk hats* - - - [General] for linings* - - - " other* - - - " Coral, carved, not mounted (pp. 118, 119).	" each net " gross	10 % — — — exempt	— 1 80 120 00 480 00 exempt.
580	Meerschaum goods* - - -	ad val.	5 %	Mercery see Note.
581	Straw hats* - - - Hats,* of bark, of sparto, of palm fibre.	gross "	10 00 —	10 00 10 00

⁵⁷⁷ The class includes—1. Under BOTH TARIFFS: Gloves (not fur gloves) including unsewn, and with linings of lambskin and wristbands of fur; all saddlery; boots and shoes (with or without cloth tops), and skins shaped for boots and shoes (but not curried leather shaped as boot legs, upper leathers, backs and fronts, see Note 578); leather articles of dress (not furriers' goods); military equipments; empty leather bottles; straps of morocco leather, punctured and seamed, for printers; hats, tobacco boxes, and other goods in *cuir bouilli*; leather drivers, for weavers' shuttles; endless straps, of leather.
2. Under the TREATY TARIFF: All the leather goods that the GENERAL TARIFF classes as *mercery* (Notes 578 to 580). Saddles and bridles of horses chargeable with import duty are taxed, in the TREATY TARIFF, 10 % ad val.; in the GENERAL TARIFF 36 % if they are new, 18 % if not new; if they are obviously much worn they are exempt; the metal ornaments on them are not considered. The special tax of 60 francs per 100 kilos. on *flasks, small étuis, nécessaires, cigar-cases, portefeuilles, and purses* in leather applies when they are ornamented with common metal, but if with ivory, mother-of-pearl, or tortoiseshell, they become *tabletterie*, and pay 10 % ad val. *Leather bottles* full of duty free liquids, or liquids taxed by net weight or by measure, pay the same duty as empty, but if their contents are taxed at gross weight, the bottles pay the same duty as their contents.

⁵⁷⁸ The class comprises all *made-up peltries* excepting the *seven pieces* (cf. Note 13).

⁵⁷⁹ The class includes, in the TREATY TARIFF—1. oilskin hats; 2. silk hats; 3. hats of cotton, gummed and covered with wool flock; 4. caps of silk plush, cotton plush, or oilskin; 5. shakos, not ornamented externally. In the GENERAL TARIFF such of the above goods as contain cotton are prohibited. Shakos ornamented with leather are classed in (578). Woollen goods manufactured like felts by milling are classed as felts in the TREATY TARIFF. In the GENERAL TARIFF they are all prohibited, excepting the stuffs with which the hammers of pianos are fitted, which are admitted as *felts*, and the felt cylinders used by paper makers, which are taxed as *bolting cloths*.

⁵⁸⁰ Real and false meerschaum, and finished and unfinished objects, are in this class, but mounted or ornamented in any way they are classed as *mercery*. In the GENERAL TARIFF all meerschaum goods are *fine mercery*. The class includes objects in *soapstone (steatite)*.

⁵⁸¹ Includes hats made of osier, cane, bamboo, or banana fibre, of plaits of soft wood, and of a tissue of *rotin sacon with rotelobone*. The duties apply equally to coloured goods or other, to entire hats and to parts, but not to the ornaments or fittings apart. Hats for women, finished and ornamented, are "*voyages de modes*." Straw hats imported to be finished or ornamented are admitted to TEMPORARY IMPORTATION free. (See O.F. 196.)

Note.	IN VARIOUS MATERIALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
582	Sennit:* (<i>Fr. tresses et nattes.</i>)	100 kilo-grammes.		<i>a. b. c.</i> for d. add 3 fra. per 100 kilos.
	of soft wood, coarse for matting -	gross	—	2 00
	„ all other -	„	—	5 00
	of sparto, in three strands, for rope-making <i>only</i> .	„	—	2 40
	of straw, bark, or sparto, in more than three strands, coarse for mattings.	„	—	2 00
	„ all other -	„	—	5 00
	of sparto, all kinds - [Treaty]	„	1 00	—
	of bark -	} — {	see Note 582.	—
	of soft wood -			
	of straw, coarse for matting -			
	„ other -	gross	5 00(a)	—
583	Canes and reeds, manufactured.	„	—	10 00
584	Basket work:*			
	woven -	per sq. metre.	} 10 % ad val.	{
	other, rough -	gross		
	„ peeled -	net		
	„ cut -	„		
585	Cordage, ropes, cables:			
	hemp* -	net	15 00	30 00
	coir -	gross	15 00	6 00
			(a)	

⁵⁸² *Sennit.*—The plaits of *soft wood* are made of wood fibres soaked in water and bleached in the sun; their principal application is *hats* called "*paille de ris*." With plaits of *straw* and *bark* are classed reeds, coco-nut, and other vegetable fibres; with *straw*, *other*, straw of cereals, bleached or simply cleaned and cut, and *tacca pinnatifida*, and the fibres or shreds of banana and other trees similarly prepared for making hats. Plaits of *bark* are admitted as *straw* under the Treaty Tariff, though they are not mentioned in the Treaties. Sennit of soft wood is referred to the conditions of the General Tariff. Matting made up is classed with *basket work*. Hanks of cocoa fibre are classed as *coores*, for matting. Also Chinese, Archangel, and Russian mats, which are woven of straw, or shreds of bark or reed, strengthened with cords. Plats put together in bands, &c. are classed as *straw hats*. Plumes, bunches, and other ornaments for women's hats, in straw, or straw and other material, are classed as *mercery*, excepting *artificial flowers*.

⁵⁸³ *Canes and reeds, prepared, spun, or otherwise manufactured*, are in this class, but not finished manufactures. The class includes—1, rattans, and pith of rattan, varnished or stained; 2, piths riven and rounded at the draw bench, and all pith of 3 millimetres or less diameter; 3, shreds of rattan bark (not waste or damaged). Cane paniers are *basket work*, mounted canes are *tabletterie*, bamboo chairs are *furniture*, &c.

⁵⁸⁴ For the regulations affecting woven goods of straw, &c. with silk, hair, or other fibre, see under **WOVEN FABRICS, mixed tissues**. The Treaties include in this class small fancy goods of straw, pith, &c., even mixed with silk, cotton, or wire, which the General Tariff ranges under *mercery*. "*Appaquettes*," so called *shoes*, made of rope, sparto, reeds, &c., are in this class; the linings of coarse cotton are not regarded. Small mats of coir, with cord canvas, or without canvas, are also in this class (*cf. Note 517*).

(a) The importer may select the conditions of the General Tariff.

Note.	IN VARIOUS MATERIALS.	Unit of Taxation.	Treaty (net).	General (4% added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.			a. b. c. for d. add 3 fra. per 100 kilos.
	Cordage, ropes, cables—cont.	100 kilo-grammes.		
	esparto of any size, yarns or coiling, beaten -	gross	15 00(a)	6 00
	" " not beaten -	"	15 00(a)	2 40
	lime tree and reeds -	"	15 00(a)	2 40
	phormium, abaca, and jute* -	net	15 00	30 00
	pita and other* -	"	15 00	30 00
586	Fishing nets, new* -	"	20 00	30 00
587	Whale fin, cut and prepared -	"	—	12 00
	Cork, manufactured -	ad val.	10 %	10 %
588	Orris root, manufactured -	net	the same	240 00
589	Goldsmith's wares and Jewellery* (pp. 120, 121).	"	500 00	500 00
590	Plated ware* -	"	100 00	prohibited.

⁵⁸⁶ The class includes string and packing thread of not more than 6,000 metres to the kilogramme, and *doré*; also pita fibres and cordilla twisted and prepared for ropemaking. For *old rope*, see (679) and (694). Wire cable is classed with *iron manufactures*.

⁵⁸⁷ The class includes all nets fit for use. Old nets are taxed as *rags* (233).

⁵⁸⁸ Includes whalebone corsets for women.

⁵⁸⁹ Powdered *orris root* is a *medicine* (see 455).

⁵⁹⁰ This class includes all manufactures (old or new) in gold, silver, enamel, platinum, aluminium, or aluminium bronze; also, in the Treaty Tariff, imitation jewellery, which is *prohibited* under the General Tariff; old goods for re-exportation are free, or broken up into fragments are taxed as *crude metals* of their kind. "*Bureaux de garantie*" are established in most of the principal towns (see the *Notes*) to which the goods are sent under seal, from the custom house, to be hall marked, and for payment of the GUARANTEE TAX upon this class of goods. But 1, ambassadors' property; 2, travellers' personal property, not exceeding 5 hectogrammes in weight, are *free from all taxation*. And 1, jewellery in very light settings, jewellery enamelled all over, and jewellery that would be spoiled by the hall mark; 2, the dials, hands, buckles, and pendants of watches, sent separately from their cases; 3, old manufactures that the customs officers are permitted to destroy; pay customs duties only. The re-importation of French goods is, subject to special regulations, *free*. Silver plate in household use by foreigners settling in France is admitted *free*, under guarantee of re-export in three years, and deposit of the amount of the Guarantee Tax.

The GUARANTEE TAX is—

On manufactures of GOLD	-	-	30 francs per hectogramme	} equal to 3'5277 oz. avoidsupois.
in SILVER and ENAMEL	-	1 60	"	

plus 25% and the charges of *test and assay*.

MEDALS, for which the Paris mint has a monopoly, are, in principle *prohibited*. The following exceptions have been made in respect of *medals struck in Treaty States*. 1. Medals of religious worship of small design and "*à bélière*," decorations and stamps, in gold, silver, enamel, platinum, or aluminium; and, 2, address labels in aluminium or platinum, are admitted at the Treaty duty on *manufactured metals* of their kind. For Class 2, preliminary application must be made to the authorities for permission to import.

Manufactures of date anterior to the 18th century, and modern medals, &c. in small quantities are admitted *free as collector's curiosities*. *Imitation jewellery* must bear the maker's known private mark, in a prescribed shape, i.e., a perfect square containing his initials or trade mark, under penalty of forfeiture. The export of this class is the subject of special regulations.

⁵⁹⁰ Plated goods must also bear the maker's private mark (see the *previous note*).

(a) The importer may select the conditions of the General Tariff.

Note.	IN VARIOUS MATERIALS.	Unit of Taxation.	Treaty (net).
	1. By Treaty Tariff (net).		
	Watches and clocks :	ad val.	5 %
	<i>or, at the importer's option :—</i>		
592	WATCHES,† in silver cases	each	1 00
	" in gold cases, single movement, escapement wheels	"	3 75
	" other	"	(add 4 %)
593	CHIMES and musical boxes†	"	5 00
594	CLOCKS, in wooden cases*	"	5 00
596	Watchworks*	net.	1 00
597	Coins (referred to the General Tariff).	100 kilo-	50 00
598	Type for printing :*	grammes.	
	new	gross	8 00
	old	"	3 00
	2. By General Tariff (add 4 %).		
			<i>a. b. c.</i>
592	Watches,† not in gold cases :		for d. add 3 fra.
	single movement, escapement wheels	each	per 100 kilos.
	" other kinds	"	gross.
	repeaters, alarums, &c.	"	1 32
	Watches,† in gold cases :		2 16
	single movement, escapement wheels	"	2 16
	" other	"	3 72
	repeaters or alarums, escapement wheels	"	5 28
	" other	"	5 28
	independent second hands and pocket chronometers.	"	7 20
595	Watches,† without cases	ad val.	7 20
593	Musical chimes†	net	12 %
594	Clocks, in wooden cases* :		600 00
	with movement of metal	each	2 40
	all others	"	1 20
595	Movements of all kinds,† mounted	ad val.	12 %
596	Clockwork* -	net	600 00
597	Coins :		<i>a. b. c.</i>
	gold and silver	"	1 00
	copper, current in France	gross	0 24
	" not current	—	prohibited.
	billon, current in France	gross	1 20
	" not current	—	prohibited.
598	Type for printing :		<i>a. b. c.</i>
	new, French	net	240 00
	" German	"	60 00
	" other	"	120 00
	old and useless	gross	6 00

*1 Clock cases containing their movements are not taxed. Imported separately they are taxed as manufactures of their respective materials. The same rule applies to wooden clocks, and musical boxes, unless the value of the case is greater than that of the works, when the whole object is taxed at the duty on the case. The restrictions of import are indicated, as usual, by the signs † and *. ** Watch

Note.	IN VARIOUS MATERIALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European produce imported direct from any place out of Europe; (d.) on the same imported from European ports.			a. b. c.
599	Machines and Machinery† :	100 kilo-grammes.		for d. add 3 frs. per 100 kilos.
600	STATIONERY STEAM ENGINES, with or without boilers or fly wheels.	net	6 00	30 00
601	MARINE ENGINES, with or without boilers	"	13 00	42 00
602	LOCOMOTIVES and portable engines - [T.]	"	10 00	—
603	LOCOMOTIVES without tenders - [G.]	"	—	46 00
603	TENDERS for locomotives, complete - [T.]	"	8 00	—
	TENDERS, iron - [G.]	"	—	36 00
	TENDERS, copper - [G.]	"	—	72 00
	MACHINERY for setting sheets and fillet cards -	"	6 00	same as [615].
604	CARDING MACHINES not furnished	"	10 00	36 00
605	MACHINES for cleaning and opening flax, wool, cotton, and other textile materials.	"	6 00	same as [615].
606	SPINNING MACHINES -	"	10 00	48 00
607	WEAVING MACHINES -	"	6 00	18 00
608	BOBBIN-WET MACHINES -	"	10 00	72 00
609	PAPER-MAKING MACHINES -	"	6 00	36 00
610	PRINTING MACHINES -	"	6 00	36 00
611	AGRICULTURAL MACHINES -	"	6 00	18 00
	EARTH TRUCKS, wooden bodies, iron wheels -	"	{ same as [606] }	24 00

cases alone are *jewellery* [589]. Ship's chronometers are classed as *philosophical instruments*. All watch cases but gold are classed as *silver*. Watches are subject to the regulations of the GUARANTEED DUTY explained in Note 589. The rule does not affect the personal property of travellers. ⁵⁹⁰ The class includes all kinds of musical boxes, etc. Clocks fitted with cuckoos, chimes, &c. are taxed for them, in addition to their proper tax. [596] is for watch work in a finished state, or only wanting some pieces; gilt and fitted with pins or fastenings with which it is to be attached to cases; all less finished combinations of parts of movements for watches are [596]. Weights and chains for wooden clocks are admitted in the Treaty Tariff as *manufactures* of their respective metals. Dials, hands, and keys of watches, in gold or silver, are *jewellery*, but are taxed as such only for the weight of precious metal they actually contain, the rest of them is taxed as 596. Watchmakers' implements are classed as *tools*.

⁵⁹¹ Coins are only taxed when imported as merchandise, and not for account of the public Treasury. All foreign coins in all metals are *prohibited*, excepting those gold and silver coins, Belgian, Swiss, Italian, Greek, and Austrian, mentioned in O. P. 128 (i.e., gold coins and pieces of 5 fr., 2 fr., 1 fr., 50 centimes, and 20 cs., coined in Belgium, Italy, Switzerland, and Greece, and Austrian gold pieces of 4 and 8 florins, valued at 10 and 20 francs), but if destroyed, so as to be useful only for remelting, they are admitted to be remelted in presence of an officer of the customs, as *crude metal* of their kind. For antique coins see *collectors' curiosities* [691]. ⁵⁹² Wooden type are classed as *manufactures in wood*. The class includes casts from a matrix, with or without designs; subject to the library regulations (see 570). The duty on *old*, is only applicable to useless type. In case of doubt it must be further spoiled (see Note 500).

⁵⁹³ The classes 600 to 615 are only for *complete machines*, i.e., fitted ready to work. When heavy machinery is imported piecemeal, the pieces must be accompanied by a detailed drawing and a guarantee that either the whole machine will be imported within a given time or the duty paid as upon *detached pieces*. Foot plates and side railings are regarded as integral parts of the machines they belong to, and imported separately are *detached pieces*. Accessory fittings which are not constituent parts of the machinery are taxed according to their kind.

Machinery can only be imported at the *offices specially named* for it (the list includes all the principal ports of France).

Different kinds of apparatus working together are taxed separately (e.g., a steam pump is taxed as a steam engine and as a pump).

Machinery patented in France may not be imported, even by the inventor, without special permission. This is not an affair for the customs to prohibit, but they would warn the importer and inform the authorities of an irregularity.

⁵⁹⁴ *Stationery steam engines* are considered *complete* without their boilers or generators. *Portable engines* are classed 600 in the General Tariff.

⁵⁹⁵ *Marine engines* come under the treaty exemption from duty of "constructions navales." The duty quoted can therefore only apply to engines destined for other purposes than "maritime navigation." (Consult O.P. 386 and Note 607.) ⁵⁹⁶ (See Note 600.)

Note.	IN VARIOUS MATERIALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
599	Machines and Machinery† (pp. 124, 125) : <i>By Treaty Tariff.</i>	100 kilo-grammes.		<i>a. b. c.</i>
607	RIVER BOATS. [See Note 607.]			
612	STEAM BOILERS of iron plate, cylindrical or spherical, with or without heating tubes.	net	8 00	—
	STEAM BOILERS, tubular, of sheet iron, with tubes of iron, copper, or brass, with internal furnace, and all other boilers not cylindrical or simply spherical.	"	12 00	—
	STEAM BOILERS of sheet steel, all shapes	"	25 00	—
613	GASOMETERS, open boilers, furnaces, and stoves, in sheet iron or cast and sheet iron.	"	8 00	—
614	APPARATUS FOR SUGAR, for distilling and for heating, of iron : : : : }	" { see the note	10 00	—
	of copper : : : : }	" {	10 00	—
615	MACHINE TOOLS and machines not mentioned, containing, of cast iron, less than 50 %	"	15 00	—
	75 % " 75 %	"	10 00	—
	75 % or more	"	6 00	—
	<i>By General Tariff.</i>			
612 to 614	RIVER BOATS, boilers, gasometers, apparatus for sugar, for distilling or for heating, in iron	"	—	35 00
615	in copper	"	—	73 00
	MACHINES AND MACHINERY not mentioned, weighing in kilogrammes more than 5,000	"	—	24 00
	" " 2,500	"	—	30 00
	" " 1,000	"	—	36 00
	" " 500	"	—	48 00
	" " 100	"	—	54 00
	100 or less	"	—	78 00
616	DETACHED PIECES : 1. <i>By Treaty Tariff.</i>			
617	SHEETS AND FILLETS of cards, on leather, india-rubber, or woven fabrics pure or mixed.	"	50 00	—
618	SHEETS AND FILLETS prepared for cards, of leather, india-rubber, and specially woven fabrics.	"	20 00	—

⁶⁰⁴ The class is for *carding* machines without the sheets and fillet cards. ⁶⁰⁵ Spinning frames are classed as *complete* without the counterpoise or regulator. ⁶⁰⁷ The class includes winding frames, sizing, dressing, warping, reeling, and stamping machines, machines for moistening the weft, and folding machines, also templates or stretchers.

⁶¹² Kitchen boilers are classed with *boiler smith's work*. Boilers imported as parts of the machines they belong to are so taxed.

⁶¹³ The class is for large gasometers or reservoirs for gas which register the quantity they contain. Gasometers are [615]. If any of the articles mentioned in this class were imported made of copper, they would be taxed as *distilling apparatus*. The class further includes; 1. Sheet iron, galvanised or not, more than a millimetre thick, adjusted or prepared for adjustment. 2. Pipes of similar sheet iron, riveted but not polished (for other iron pipes, see Note 648). 3. Cylinders or barrels made of sheet iron, soldered and riveted, for buoys; and tanks for water or oil imported in separate pieces or whole, made of sheet iron, galvanised or not, more than a millimetre thick.

⁶¹⁴ Apparatus of this class in iron is taxed, under the Treaty Tariff, with 615, excepting apparatus *all of cast iron*, which is classed with *cast iron pottery*. Iron mixed with *much* copper would be regarded as *copper*.

⁶¹⁵ This class is for all machinery not specifically taxed, excepting machinery all of wood, which would be classed as *manufactures in wood*. Velocipedes, which are in this class in the General Tariff, are taxed with *carriages* in the Treaty Tariff. For *tackle* (of pulleys, &c.) see Note 652.

⁶¹⁶ Parts of machines that do not combined, form a complete machine are *detached pieces*. (Consult the previous Notes 599, 600, and 608). *Detached pieces* of different metals are taxed as a whole with the duty of their most heavily taxed ingredient, but this rule only applies to inseparable pieces; when the weight of each metal can be ascertained it is taxed by itself. The duties regulated in inverse proportion to the weight apply to inseparable parts of a machine. Pieces all wood are taxed as *manufactures in wood*. Fly-wheels are, in General Tariff, *pieces of machines*, in Treaty Tariff they are *manufactures in metals*.

⁶¹⁷ Are fillets with the dents set.

⁶¹⁸ Are the fillets prepared for setting the dents. In the General Tariff they are taxed as *manufactures* in their respective materials. It is assumed that they always consist of, at least, three layers of cloth, presented with less they would be referred to experts before admission into this class.

Note.	IN VARIOUS MATERIALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
	Machines and Machinery—cont.	100 kilo-grammes.		
	DETACHED PIECES:			
619	DENTS of reeds, in iron or copper - - -	net	30 00	—
620	REEDS and slays complete - - -	"	30 00	—
621	SHUTTLES. (See Note 621.)			
622	OF AGRICULTURAL MACHINES, and—			
	OTHER DETACHED PIECES:			
623	In cast iron, polished, filed, and adjusted -	"	6 00	—
624	In wrought iron, polished, filed, and adjusted or not, without distinction of weight.	"	10 00	—
625	Steel springs for carriages, waggons, and locomotives.	"	11 00	—
	Other pieces in steel, polished, filed, adjusted or not, weighing more than 1 kilo. - - -	"	15 00	—
	1 kilo. or less - - -	"	20 00	—
	Pieces in copper, pure or mixed with any other metal.	"	20 00	—
	2. By General Tariff.			a. b. c. for d. add 3 fra.
617	SHEETS AND FILLETS of cards, any kind - -	"	—	240 00
618	SHEETS AND FILLETS prepared for cards, of leather, india-rubber, and specially woven fabrics. See Note 618.			
619	DENTS of reeds. See Note 619.			
620, 621, 622	SLAYS, SHUTTLES - - - -	"	—	240 00
623	Pieces of purely AGRICULTURAL MACHINES: In cast or wrought iron, pure or mixed with steel.	"	—	18 00
624	OTHER DETACHED PIECES: In cast iron, weighing kilos. more than 5,000 -	"	—	18 00
	" " 2,500 -	"	—	24 00
	" " 1,000 -	"	—	30 00
	" " 200 -	"	—	42 00
	" " 100 -	"	—	54 00
	" " 50 -	"	—	66 00
	" " 25 -	"	—	78 00
	25 or less -	"	—	96 00
624	In wrought iron, weighing kilos. more than 50 -	"	—	78 00
	" " 25 -	"	—	84 00
	" " 5 -	"	—	96 00
	5 or less -	"	—	120 00
625	In steel - - - -	"	—	180 00
	In copper - - - -	"	—	240 00

619 *Dents of reeds* in General Tariff are classed under the heading of *other detached pieces*.

620 Wooden reeds would be classed as *manufactures in wood*. The class includes cards of wood with iron or steel spikes, metal spikes for combs, the *leaves* or *heddles* of cotton or woollen thread for looms. The leaden counterpoises for Jacquard looms, with leaves of thread, when they are not separated from the leaves, follow the classification of the latter. Heckles for flax and tow are placed by the Treaty Tariff in this class, in the General Tariff they are classed as *tools*.

621 *Shuttles* of wood and steel, or wood and iron, are classed in the Treaty Tariff as *other detached pieces*; all of wood, they are *manufactures in wood*.

622 *Other pieces in cast iron*, neither polished, nor filed, nor adjusted, are classed, in the Treaty Tariff, with *manufactures of cast iron, moulded, not turned, nor polished*. The General Tariff does not make this distinction.

624 The class includes spindles of tin-plate for spinning, *spingles* for ribbon manufacture, lifting wires for the stocking loom, copping plates for bobbin-net machines, and the cylinders for cotton gins. Axles and tires of wheels in wrought iron, filed or polished, are in this class. Axles of wrought iron, crude, are classed as *heavy iron wares*, and tires of the same as *iron bars*. Consult Note 288.

625 *Slays* of locomotive furnaces, axles, and cranks, and circular knives of crude steel, wrought or not, are in this class; wheel tires are not always. See Note 288.

Note.	IN VARIOUS MATERIALS. ¹	Unit of Taxation.	Treaty (net).	General (4 % added).
	The duties quoted under the heading General Tariff are: (a.) on European products imported direct from the producing country; (b.) on the same products not so imported; (c.) on extra European products imported direct from any place out of Europe; (d.) on the same imported from European ports.	100 kilogrammes.		a. b. c. for d. add 3 fra. per 100 kilos. gross.
626	Philosophical instruments* -	ad val.	exempt	36 %.
627	Cylinders of copper or brass for printing, engraved or not. [Treaty]	net	15 00	—
628	Plates engraved for printing on paper [Treaty]	—	exempt	—
627	Engraved cylinders,* plates,† and coins.† [General]	ad val.	exempt	18 %.
629	Casts from matrices† - - -	gross	8 00	same as 598
630	Surgical instruments* and chemical apparatus.*	ad val.	exempt	12 %.

¹ This class includes optical instruments, astronomical, mathematical, for navigation and the study of physics, photographic apparatus, *large* magic lanterns, sun-dials, globes, large mariner's compasses and chronometers, electrical, &c. machines, telegraphic apparatus, and generally all scientific or calculating instruments *not surgical and chemical*. In the Treaty Tariff it also includes common office compasses, small mariners' compasses, spectacles, opera glasses, single and double, and *small* magic lanterns, which are classed as *mercery* or *toys* in the General Tariff.

² These are cylinders for printing piece goods. The Treaty Tariff does not regard whether they are engraved or not. The General Tariff places them, if not engraved, with *other detached pieces of machinery*. Copper cylinders intended to be prepared for engraving, not further manufactured than by chiselling, trimming, and boring, are classed with *crude copper*. The class includes, in Treaty Tariff, plates of copper or of wood and copper engraved for printing piece goods or wall paper.

³ The General Tariff classes together engraved plates of copper, steel, zinc, tin, or wood, for printing on piece goods or paper of any kind. In the Treaty Tariff this class only includes plates for engraving on paper (not wall paper) *see* Note 627. Steel plates for engraving on piece goods or wall paper are classed (in the Treaty Tariff) with *manufactures in steel*. The same rule applies to "coins." This class (and 629) are subject to the *library regulations* explained in Note 570, unless they are mere manufacturer's patterns.

⁴ Instruments, or parts, in precious metals are taxed as *goldsmith's wares*. *Chemical apparatus* is only in this class when imported for experimental objects. *Chemical apparatus* for manufacturing purposes is classed elsewhere.

Note.	IN VARIOUS MATERIALS.	Unit of Taxation.	Treaty (net).	General (4% added)
	1. By Treaty Tariff.	100 kilogrammes.		
681	Tools :* (pp. 126, 127)			a. b. c. for d. add 3 fr.
to	all iron, handled or not - -	gross	10 00	—
686	iron and steel, handled or not -	net	15 00	—
	all steel, scythes, sickles, saws, and other.	"	20 00	—
	copper - - - -	—	[see 653]	—
	2. By General Tariff.			
682	hackles or combs - - -	—	[see 620]	—
	pointed with iron or copper -	net	—	96 00
	" " steel - - -	"	—	240 00
683	scythes - - - -	"	—	144 00
	sickles, &c. and other farm tools -	"	—	96 00
	files and rasps, coarse or common -	"	—	90 00
	smooth, 17 centimetres long, or more.	"	—	216 00
	" less than 17 centimetres	"	—	270 00
	saws, circular :			
	more than 20 centimetres diam.	"	—	210 00
	not " " " "	"	—	240 00
	saws, other kinds, in length :			
	50 centimetres or less -	"	—	240 00
	less than 146 centimetres -	"	—	210 00
	146 centimetres or more -	"	—	182 00
	other tools :			
	all iron - - - -	"	—	60 00
	iron and steel - - -	"	—	150 00
	all steel - - - -	"	—	210 00
	copper or brass - - -	"	—	180 00
687	Wire gauze :*			
	of iron - - - -	"	10 00	90 00
	all steel - - - -	"	(gross)	180 00
	copper or brass - - -	"	20 00	180 00

* Tools of different classes mixed in packing must be separated by the importers, and classified in the declarations, by the weight of each class of goods. Workmen settling in France are taxed in all cases for any new tools they may bring; tools that have been used are in these cases exempt.

** Farm tools in the Treaty Tariff are specially mentioned in the class all steel, without distinction in respect of handles. For the General Tariff the handles on tools are separately taxed. For tools all wood see 686. Pruning knives and bill hooks are in this class, unless they are in the form of pocket knives, when they are cutlery. Spring traps, and sheep bells are in this class in the General Tariff only. The Treaty Tariff classes them with other manufactures of their metals.

** Smooth files have more than eight cuts per centimetre.

** The drill bow of turnery is in this class in the Treaty Tariff. In the General Tariff it is classed with mercury.

** Wire gauzes varnished, galvanised, or coloured, or fitted to sieves, are taxed alike; but as parts of paper-making machinery, the whole is classed with detached pieces of machines.

Note.	IN VARIOUS MATERIALS.	Unit of Taxation.	Treaty (net).	General (4% added).
638	Needles:* 4 centimetres long, or less - - - 5 " " " " - - - more than 5 centimetres - - -	100 kilo-grammes. net " " "	200 00 200 00 100 00 50 00 100 00	a. b. c. for d. add 3 frs. 960 00 600 00 240 00 240 00 480 00
639	Fish-hooks* - - -	"	50 00	240 00
640	Pen nibs,* not gold or silver* - -	"	100 00	480 00
641	Cutlery of every kind* - - -	ad val.	15 %	prohibited.
643	Cast iron, not turned or polished, pp. 128, 129 : chairs for railways, plates and other castings from the open mould. straight cylindrical pipes, rafters and columns, solid or hollow, gas retorts, solid bars and sets there- of, grates and chimney backs, shafts of machinery, frames of machines, and other objects, without ornaments or fittings. pots, and all other manufactures not included in the preceding classes.	gross " " " " "	3 00 3 75 4 50 6 00 10 00	} prohibited.
	Cast iron : polished or turned - - -	"	6 00	
	tinned, enamelled, or varnished -	"	10 00	

⁶⁰⁰ Includes the needles of sewing machines. Knitting, &c. needles are *miscroery* in the General Tariff, and *metal manufactures*, of their kind, by the Treaties. Sailmaker's needles, needles for tapestry, &c. without heads are classed with tools.

*** The class includes shark hooks and artificial bait of all kinds fitted with hooks.

⁶⁴⁰ Gold and silver pens are taxed (and restricted) as *jewellery*, see 580, those of low standard only pay customs duty in that class. Printed cards for displaying the pens are taxed separately as *labels*.

⁶²² Compare 650. Butcher's cleavers, nailsmith's chisels, knives of shoemakers, tanners, curriers, and coopers, and all the large cutting tools made in *black work* shops and plainly handled are classed with *tools*. Knives with blade or handle of gold, silver, or vermeil are classed with *jewellery*. The blades and handles may be valued and taxed separately in the two classes. Small ornaments on handles do not bring knives within the class *jewellery*.

⁶²⁰ Bullets and small shot are *lead man*. The Treaty Tariff classes bullet moulds and ball drawers as *metal man*. The General Tariff classes them as *mercery*. Shells and other projectiles are 663. For toys in metal see 674. Weights and measures on the metrical system are, by Treaty Tariff, classed as *metal man*; but, admitted, have to be legalised with the same formalities as French made goods. For medals, &c., see Note 589.

30 The Treaty Tariff divides cast iron goods into three classes, of which the first is sub-divided into three. The minimum duty only applies to *castings from the open mouth*,³⁰ and to railway chairs. *Pots for sugar*, *metal grates*, *coke boxes*, *clothes wringers* (detached) and *cast-iron stoves* are classed *as wrought iron*. Cast-iron *frames* and *wrings* the ends of which are not counted as *turned*, nor are machine *frames* and *columns for bays* simply perforated with holes finished with a pipe borer. Objects *partly* enamelled or varnished are classed as *varnished, &c.* But cast-iron goods are not so classed because they are covered with a preparation merely to preserve them from rust. Manufactures in malleable cast iron are classed as of *wrought iron*.

⁶⁴⁴ Including framework, knees and girders, ironwork for carts and waggons, hinges, beds, garden seats, &c., with or without accessory ornaments in cast iron, copper, or steel. Hinges and door fastenings turned or polished are classed with small iron wares. Iron furniture of which the ornamentation is an important part is classed with 640. The class includes rails prepared for shuntings, collars for screw bolts (imported separately); fish plates for rails (chiselled); rough ironwork of waggons, not chiselled, nor filed, nor turned, nor planed, nor bored; parts of weapons of crude wrought

Note.	IN VARIOUS MATERIALS.	Unit of Taxation.	Treaty (net).	General (4% added).
	Wrought iron :	100 kilogrammes.		
644	heavy iron wares - - -	gross	8 00	} prohibited.
645	small iron wares - - -	net	12 00	
646	nails forged by machinery - -	gross	8 00	
	" by hand - - -	net	12 00	
647	wood screws, screw bolts and nuts	gross	8 00	
648	tubes and fittings :			
	butt-welded, 9 millimetres or more, inside diameter	net	11 00	—
	butt-welded, less inside diameter. [Treaty].	"	20 00	—
	lap-welded iron tubes [Treaty].	"	20 00	—
	fittings for iron tubes [Treaty].	"	20 00	—
649	household ware and other articles not mentioned :			
	polished or painted [Treaty]	"	14 00	} prohibited.
	tinned, enamelled, or varnished [Treaty].	"	16 00	

iron, not gun barrels (Treaty only: In General Tariff they are *arms*); crucibles or hearths of crude wrought iron; buffers, unless so far manufactured as to come in the class *detached pieces of machines*; keys merely punched out; axles of crude wrought iron; and, generally, all articles in wrought iron which are not turned, nor polished, nor finished with the file, but require a further process of fitting and boring; finally such articles as, in their actual stage of manufacture, resemble *heavy iron wares*. Galvanised, are classed with the rest. Hollow iron gratings are taxed in the Treaty Tariff as *tubes*, in the General Tariff as *manufactures not mentioned*.

⁶⁴⁴ Varnished or painted: are classed with the rest. The class is only for articles *turned, polished, or filed*. In the General Tariff iron padlocks are *mercury*.

⁶⁴⁵ Shoemakers' and saddlers' nails are placed by the Treaty Tariff in this class, by the General Tariff with *mercury*.

⁶⁴⁶ The class includes bolt pins and rivets, and collars fitted to screw bolts (see 644).

⁶⁴⁷ In the General Tariff the class is only for gas, water, or steam pipes, and tubes for stores or for small iron work are classed as *articles not mentioned*, further, tubes not heavier than 3 kilogrammes per metre are taxed in the highest class, whatever their diameter may be.

⁶⁴⁸ The Treaty Tariff classifies the tubes only by their welding. Iron gratings of hollow bars are classed as *butt-welded*, and rough gun barrels with *lap-welded iron tubes* in the Treaty Tariff. The former are 648, and the latter *arms* in the General Tariff. The following table applies only to the TREATY TARIFF: SHEET IRON: *Unpolished tubes jointed with nails or cramps*, and more than a millimetre thick, are taxed with *gasometers, &c. in sheet iron* [618]; a millimetre or less in thickness, and not galvanised;—with *thin sheet iron, &c. shaped* [233]; the same galvanised;—with *tin plates, &c.* [294]; *unpolished tubes, soldered*;—with *butt-welded* [648]; *polished, nailed* (of all sizes), and *polished, soldered*, of 9 millimetres diameter;—with *articles not mentioned* [649]; *polished, soldered, of less diameter* are classed with *wrought-iron tubes of less than 9 millimetres diameter* [648]. In the GENERAL TARIFF: Tubes of SHEET IRON are *prohibited*. By the TREATY TARIFF: Coupling boxes, straight, drawn by machinery, imported with the pipes they belong to, are taxed with those pipes, and one coupling box extra may go with them. Imported apart, they are classed with other *fittings*. By the GENERAL TARIFF, all the above are classed with *detached pieces of machinery*. Fittings of malleable cast iron are classed as *wrought iron*. Pipes broken for special purposes are classed as *fittings*.

⁶⁴⁹ Manufactures of wrought and sheet iron imported to be galvanised are admitted to TEMPORARY IMPORTATION, free. The class includes all articles of wrought iron, sheet iron, or tin, of every shape, use, and value, not previously tariffed. In the TREATY TARIFF it includes the following, which the GENERAL TARIFF taxes as *mercury*:—clasp, key rings, buckles, steels, knitting needles, birdcages, chandeliers, pipe covers, spoons, thimbles, including *salmoniers*, spurs, stirrup-irons, candlesticks, forks, bells, jew's harps, lanterns, mufflers, bullet moulds, button moulds, coffee mills, shuttles, bodkins, skates, sugar nippers, nail scissors, rolling pins, bootjacks, corkcrews, ball drawers, button-hooks, and drawing pens. All manufactures of wrought and sheet iron are divided by the TREATY TARIFF into two classes; 1, *polished or painted*; 2, *tinned, enamelled, or varnished*. All that are not 2, are 1, whether they are *polished, &c.* or not. 1 includes also all manufactures that are merely punched out, and manufactures of malleable cast iron merely chipped or trimmed. For *sheet iron, iron tubes, and gasometers, &c.*, see [233], [648], and [613].

Note.	IN VARIOUS MATERIALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
	Wrought iron—continued.	100 kilogrammes.		<i>a. b. c.</i>
	tubes,* straight or bent, with or without fittings, more than 25 millimeters inside diameter [Gen.]	net	—	for <i>d.</i> add 3 frs. 42 00
	Do. 25 millimetres or less - ["]	"	—	60 00
	all other wrought iron goods -	"	—	
650, 651 } 652 }	Steel wares - - -	"	20 00	
	Cast iron and iron :			
	not polished, the weight of iron being less than half of the whole.	gross	4 50	} prohibited.
	not polished, the weight of iron not being less than half of the whole.	"	8 00	
	polished, enamelled, or varnished, or with ornaments in iron, copper, brass, or steel.	net	12 00	
	Metals :			
653	Copper wares,* objects of art and ornament, and all other works in copper, pure, or alloyed with zinc or tin. [Treaty]	net	20 00	—
658	manufactures in copper, pure or alloyed :			
	merely turned,* common [Gen.]	"	—	120 00
	" fine - ["]	"	—	240 00
	other kinds - ["]	—	—	prohibited.
654	lead* manufactures of all kinds [Treaty]	gross	3 00	3 00
	tin pots* and pans, pure or alloyed [Treaty]	net	30 00	—
654	lead manufactures* - [General]	"	—	28 80

⁶⁵⁰ Many small steel objects which, separate, belong to this class, are often merely accessory parts of other manufactures, with which, in such cases, they are classed for taxation.

⁶⁵¹ Includes, in the TREATY TARIFF, a large number of the articles enumerated in Note 640, which the GENERAL TARIFF taxes as *mercury*, or as *steel wire*, or as *arms*.

⁶⁵² Where the classification is doubtful the goods are referred to experts. Coarse preventive preparations against rust are not regarded as *varnish*. The TREATY TARIFF puts tackle or pulleys and fly-wheels of machines in this class. In the GENERAL TARIFF the former are taxed as *machines*, and the latter as *detached pieces of machinery*.

⁶⁵³ Add "not elsewhere nominally tariffed nor included in other classes." Post-horns are included, and solder. The TREATY TARIFF includes: 1, wire brushes, which in the GENERAL TARIFF are with *copper wire*; 2, blowpipes, balance levers, "lardieres," trowels, scrapers, in copper and zinc, and other copper tools, which are specially taxed in the GENERAL TARIFF; 3, the articles enumerated in Note 640, and some others, classed in the GENERAL TARIFF as *mercury*. Copper pipes for boilers are *detached pieces of machinery*. All kinds of lamps are classed as manufactures of the metals they are made of. Metal reflectors are treated, in all cases, like separate importations. Sporting and other articles, ornamented or finished with copper appurtenances, are not, for that, transferred to this class. Objects of art anterior to the 18th century, ancient medals, and small collections of modern medals are admitted free as *collectors' curiosities* (see Note 589).

⁶⁵⁴ Printers' type are specially tariffed; other alloys of lead with antimony would come into this class. The TREATY TARIFF includes rings, spoons, combs, pipe stems, snuff-boxes, which are *mercury* in the GENERAL TARIFF.

Note.	IN VARIOUS MATERIALS.	Unit of Taxation.	Treaty (net).	General (4% added).
	Metals—continued.	100 kilo-grammes.		a. b. c. for d. add 3 frs.
655	tin pots,* common - [General]	net	—	120 00
	" fine - - - - - ["]	"	—	240 00
	other tin goods - - - - - ["]	"	—	prohibited.
656	zinc* manufactures of all kinds [Treaty]	gross	8 00	prohibited.
657	nickel* manufactures alloyed with copper or zinc. [Treaty]	net	100 00	prohibited.
658	manufactures, gilt or silvered, by mercury or electro-plate. [Treaty]	"	100 00	prohibited.
	statuary, life size or less ["]	"	exempt	—
659	Arms† of War :	—	—	prohibited.
	Arms of Commerce :			
	side-arms - - - - -	net	40 00	480 00
	fire-arms - - - - -	"	240 00	240 00
660	Ammunition of War - - - - -	—	—	prohibited.
664	Percussion caps, cartridges, mine fuzes, fireworks.	ad val.	—	10 %.

* The class includes all domestic utensils, such as spoons, forks, chandeliers, plates, &c., and all the small tin articles formerly classed as *mercery*. Organ pipes of tin are *detached pieces of musical instruments* in the TREATY TARIFF. By the GENERAL TARIFF they are prohibited as *tin manufactures*.

† Compare Note 590 (as to maker's private mark). The class includes lace and small wares of imitation gold and silver on cotton thread. Consult Note 589 respecting *imitation jewellery*.

Arms of war are described as arms which serve or have served to arm troops, or which are fit for use in war, or are imitations, "reduced or simplified," of arms of war, and arms called "de bord" or "de troque." Exception is made of arms too costly for troops, and of arms "de troque" only fit for sporting uses. Prohibited are,—1, daggers of all kinds; 2, air-guns and pistols; 3, sporting knives fitted with pistols; 4, "sileux ou casse-tête" (life-preservers?); 5, pocket pistols, not more than 298 millimetres long, and revolvers not more than 180 millimetres long. Children's guns and swords are classed as *toys*, unless they are serviceable as weapons. In case of permission obtained from the Ministry of War to import the prohibited kinds, they are taxed as follows:—

Side arms and fire arms - - - - - The same as *arms of commerce*.

Artillery, in bronze, copper, or steel - - - 12 francs per 100 kilos. net.

Artillery or carriages, in cast or wrought iron - 4 80 per 100 kilos. gross.

Carriages in wood - - - - - Are taxed as *manufactures of wood*.

Old and useless artillery for remelting is classed as *scrap iron*. Special laws affect the import, export, and transit of arms. Captains of foreign vessels are bound to declare what arms and munition they carry, and if they disembark any, to take it all away with them again. Arms of commerce, finished with gold or silver, come under Note 589. Gun and other cases are taxed apart from their contents. Foils and blades of foils are *mercery* in the General Tariff; in the Treaty Tariff they are *arms of commerce, side arms*. Parts of weapons are dealt with as *arms*, with the following modifications in the Treaty Tariff:—Pieces, all iron, or rolled, crude from the forge, excepting gun barrels, are *heavy iron wares*; gun barrels, crude from the forge, or burnished externally on the mill, are *tubes of wrought iron, lap-welded*; cocks, springs, and other small pieces, in crude steel, are classed as *manufactures of all steel*. All the above, when polished, filed, or adjusted, are classed as *fire-arms*. Wooden stocks are classed as *manufactures in wood*, and are exempt from the police regulations affecting *arms*. The import of *arms* is restricted to certain specified offices. *Arms of war* can only be bonded at Bordeaux, Boulogne, Havre, Lyons, Marseilles, Nantes, Paris, or Rouen. Returns are made to the Government every fortnight of all arms entered for consumption or bonding. All importers have to declare the names and addresses of consignees.

Gunpowder. All fulminating compounds except dynamite are prohibited. The import of dynamite (by special authorisation) is subject to special regulations, and a duty of 2 50 per kilogramme (net of the 4 %). Export of ammunition is the subject of special restrictions. Cartridges specially prepared for gun clubs, when imported by special permission, pay 10 % *ad valorem*.

Projectiles (when specially admitted) pay 4 80 per 100 kilograms; when useless, except for remelting, they are classed with *scrap iron* (see Note 590). Lead bullets are classed with *manufactures in lead*.

Percussion caps, for sporting purposes, must be sent under guarantee direct to the residence of the consignee. But any that fit the nipples of *arms of war*, or exceed 0 0063m. diameter at the opening, are treated as *arms of war*. 100,000 caps for *arms of war* would weigh about 50 kilograms; the same number, of the heaviest kinds, of sporting caps, would seldom weigh more than 30 kilograms.

Note.	IN VARIOUS MATERIALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
665	India-rubber and gutta-percha* goods :	100 kilogrammes.		a. b. c. for d. add 3 frs.
	pure or mixed - [Treaty]	net	20 00	—
	applied on piece and other goods [Treaty]	"	100 00	—
	on elastic tissues (all sizes) [Treaty]	"	200 00	—
	boots and shoes - [Treaty]	"	60 00	—
	made up clothes - [Treaty]	"	120 00	—
	merely remelted, pure [General]	"	—	24 00
	" mixed with other substances [Gen.]	"	—	60 00
	combined with, or applied on other substances (excepting piece goods). [General]	"	—	240 00
666	Carriages :			
	all kinds* - - [Treaty]	ad val.	10 %	—
	on springs, lined or painted [Gen.]	—	—	prohibited.
	other, on peg beams - [Treaty]	ad val.	—	18 %
	earth trucks - - [Treaty]	—	—	see 611.
667	Vessels :			
	river boats, wood - - -	ton. m.	10 00	24 00
	" iron - - -	"	40 00	see 611.
	seagoing, sail or steam, rigged and fitted† [Treaty]	"	2 00	—
	" hulls only [Treaty]	"	2 00	—
	for breaking up - [Treaty]	—	G. T.	—
	seagoing,† wooden [General]	ton. m.	—	40 00
	" wood and iron [General]	"	—	50 00
	" all iron [General]	"	—	60 00
	" hulls, wooden [General]	"	—	80 00
	" " wood and iron [General]	"	—	40 00
	" " all iron [General]	"	—	50 00
	for breaking up, sheathed in metal [General]	"	—	0 72
	" other - - -	"	—	0 30

* The class includes the collars, or segments, of amianthus (or flexible asbestos) which are applied, instead of india-rubber, to the joinings of steam boilers; also the carpets of india-rubber mixed with cork; and the tubes of hardened india-rubber prepared for the manufacture of scientific instruments. For surgical instruments see 636. Small articles of hardened india-rubber, such as personal ornaments, combs, &c., with or without metal ornaments, are *tabletterie* in the Treaty Tariff, and mercury in the General Tariff.

† In the General Tariff is: *r. on piece goods* is classed with the piece goods. *Elastic tissues*: braces and garters are *mercery* in the General Tariff, in the Treaty Tariff they are in this class.

** For the regulations affecting the parts and appurtenances of carriages imported separately see especially *iron*; *detached pieces of machinery*, &c. The carriages of ambassadors and other similarly privileged persons are perfectly free: also *old carriages* of travellers arriving by road or rail with luggage; but if the carriages so arriving are *new*, then—1. *Those made in a contracting country* are admitted on deposit of the import duty, to be reclaimed within a year; or "*sous acquit à caution descriptif*" guaranteeing the re-export of the carriage within a year: 2. *For those not made in a contracting country* one third of their value must be paid, and of this payment only three fourths will be given back on re-export of the carriage, within three years. The same rules apply to travellers' carriages arriving by sea, or without their owners.

Note.	IN VARIOUS MATERIALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
		100 kilogrammes.		a. b. c. for d. add 3 fr.
668	Rigging and outfit. Sails (669) -	—	see 533	see note.
	anchors* weighing 250 kilos. or less	gross	8 00	18 00 N
	" " more -	"	8 00	12 00 N
670	" salvage, any weight -	"	G. T.	1 20
671	iron cables and chains* -	"	8 00	45 00 N
672	other rigging, &c. -	ad. val.	see note	12 %
673	Tabletterie :			
	étuis in bone, wood or horn, nécessaires, porte-monnaies, and manufactures of wood turned, varnished, or ornamented.	net	60 00	see note.
	other kinds -	ad val.	10 %	—
	ivory billiard balls [Treaty]	ad val.	10 %	—
	ivory combs [General]	net	—	480 00
	tortoiseshell combs ["]	"	—	480 00
	not mentioned ["]	"	—	600 00
674	Toys* -	net {	10 % ad val.	prohibited. 96 00

⁶⁶⁷ *Hulls only* include the lower masts, chainwales, and chains. The importation is restricted to offices open to admit *machinery*. Tonnage is reckoned on the French (Moorsom) method, and includes the engine rooms, "soutes" (sail room, cable tier room, coal bunkers, &c.) and cabins. Sea-going ships used for river navigation must pay the higher duty (under the Treaty Tariff). The Treaty Tariff only applies to vessels built in contracting countries which have never carried the flag of a foreign (not contracting) country. Old vessels and new, if still seaworthy, are taxed alike. River boats of wood and iron are taxed as *all woodens*. The import duty includes the ship's boats, rigging, outfit, and necessary furniture, with cook's necessaries and water casks. But boats on board, not for the use of the vessel, spare articles in excess of the ordinary outfit, bedding, linen, crockery, and "meubles meublants" (upholstery?) are separately taxed. Such objects, if prohibited in the General Tariff, would still be admitted as *freightware*. Metal ballast, and the engines, are *exempt* in a sea-going vessel under the Treaty Tariff, under the General Tariff they are to be separately taxed. Foreign ships bought by French subjects pay a REGISTRATION TAX of 2 % ad valorem. This tax is not charged on vessels built abroad for account of the importer. The following are exempt from import duty: 1. Prizes of war, or vessels confiscated by law. 2. Vessels cast away on the French coast (under certain conditions, *not specified*). 3. Vessels saved at sea by French sailors brought in to be sold publicly. The above exemptions include boats, rigging, and outfit, &c. Vessels sold as wrecks, of 2 tons or less, pass for 12 % ad valorem, whether they require repairing or not. Compare Note 672. Machinery, rigging, and fittings of French merchant ships, if made in a contracting country, are, under certain conditions, exempt from the duties (see 505 O.P.) except for inland navigation. *For breaking up.*—The class only includes the *hulls*. Masts, rigging, &c. would be separately taxed. "This rule, however, is only strictly applicable to metal goods." Old sails, cordage, &c. are taxed 10 % ad valorem. Anchors, chains, and other iron work, only fit for remelting, as *scrap iron*. The hull of an iron ship would be classed as *scrap iron*. See the notes on *woods*, *wood manufactures*, and *cordage*, and the previous note. ⁶⁶⁸ The General Tariff classifies sails with *made up goods* of the material they are woven of. ⁶⁶⁹ The class includes all kinds of *cables*. The salvage must be made in French waters. ⁶⁷¹ In the Treaty Tariff the class includes all kinds of chains and railway couplings. In the General Tariff only chain cables for marine use. ⁶⁷² The class is exhausted in the previous notes.

⁶⁷³ The first list of objects in this class is ranged under the GENERAL TARIFF with *mercery*. For the TREATY TARIFF the distinction is not important, the ad valorem duty being the same on both classes. For the GENERAL TARIFF the classification is hopelessly involved, and, in some respects, apparently undetermined (see Note 678). The usual regulations apply to objects set in precious metals (see Note 589).

⁶⁷⁴ Toys of glass are in this class in the GENERAL TARIFF; in the TREATY TARIFF they are classed with *glass*. Toys in ivory, tortoiseshell, or mother-of-pearl are 672. For metal toys the importer may select this class or that of *manufactures in metal*. Toys partly metallic, partly of other material are 674. Those principally of gold or silver are 589.

Note.	IN VARIOUS MATERIALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
		100 kilogrammes.		<i>a. b. c.</i> for <i>d.</i> add 3 fra. prohibited.
675	Lucifer matches* - - -	—	prohibited.	
676	Pins of every kind* - - -	net	50 00	see 678.
677	Brushes of every kind* - - -	ad val.	10 %	see 678.
678	Mercery, of every kind* [Treaty]	"	10 %	—
679	" common - [General]	net	—	120 00
680	" fine - ["]	"	—	240 00
681	Buttons : * (not passementerie) [Treaty]	ad val.	10 %	—
	cotton, pure or mixed (not with wool or silk) plain	net	} see the note.	{ 120 00 240 00 see note.
	" " " figured	"		
	other passementerie - - -	—		
	not passementerie, common [Gen.]	net	—	120 00
	" " fine ["]	"	—	240 00
682	Hair (<i>cheveux</i>) manufactured -	gross	exempt	exempt.
683	Modes (<i>ouvrages de</i>)* - - -	ad val.	"	14.40 %
684	Artificial flowers* - - -	"	"	14.40 %
685	Umbrellas and parasols* [Treaty]	"	10 %	—
	silk - - - [General]	each	—	2 40
	" <i>toile cirée</i> " - - - ["]	"	—	0 90
550	Hair (<i>crin</i>), or cow's hair, manufactures.*	ad val.	10 %	see 550.

⁶⁷⁵ When the prohibition is overruled by special licence, the duty is 5 % ad val. Importations by private individuals, for their personal use, pay 5 % ad valorem, plus the internal taxes de consommation. The private consumer is allowed 5 kilogrammes a year. The tax is: on *wooden matches*, 4 centimes per hundred, on others: 5 centimes per box of 50; 10 centimes per box of 100; and 10 centimes per 100 or fraction of 100 beyond. Stringent regulations affect the delivery, &c. Matches merely "sulphured" are admitted as *manufactures in wood* in the GENERAL TARIFF. In the TREATY TARIFF they pay 5 % ad valorem, and the same rule applies to wood prepared for making matches, when imported for account of the monopoly.

⁶⁷⁶ Gold, silver, or gilt are 589. Pins with large steel heads are classed under *steel*; pins with large glass heads, under *glass*. All pins are *mercery* in the GENERAL TARIFF; so are (677) *brushes* of all kinds.

⁶⁷⁸ *Mercery*.—Among the articles classed in BOTH TARIFFS as *mercery*: are whalebone ramrods; tennis balls; coarsely painted or papered boxes; phosphoric matches; fishing rods; chignons; gut strings; for mechanism; toothpicks; charcoal filters; manufactures in rock salt; briar wood pipes, &c. The class trenches on nearly every other class in the Tariff.

⁶⁸¹ In the TREATY TARIFF: "*passementerie*" buttons are fancy buttons, worked by hand, for women's clothing. They are taxed as "*small-wares*," or "*articles not mentioned*," in their places under the heading TISSUES. This class, (681) therefore, includes *all other buttons*, in wood, horn, bone, ivory, porcelain, metal, &c. or plated, gilt or silvered, or covered with a tissue; excepting *glass and jewellery*. The GENERAL TARIFF: classes all covered buttons with "*passementerie*," and taxes them according to their outside covering: e.g., a button that is woollen outside is taxed as *woollen*, whatever its inside may be made of. Buttons of silk and cotton are taxed as *silk*; those of cotton and wool, as *passementerie of wool mixed with yarn and hair*.⁶⁸² Especially bonnets, &c. The class is only for completed goods, not pieces thereof. Trusses and ornaments not specially tariffed are *mercery*.

⁶⁸² This class, also, is only for completed goods. Separate pieces are classed with the material they are made of.

⁶⁸³ The GENERAL TARIFF includes as "*toile cirée*" linen goods, not "*cirées*." Alpaca and cotton are prohibited. Handles or frames imported separately are classed with the materials they are made of.

Note.	IN VARIOUS MATERIALS.	Unit of Taxation.	Treaty (net).	General (4 % added).
686	Wood : empty casks, new or old, on stands or not " with wooden hoops - " with iron hoops - brooms, common - oars and sculls, rough - " shaped - shovels, forks and rakes - dishes, spoons, porringers, and other household utensils. handles of tools, with or without ferrules. framing and wheelwrights work - button moulds - shoes, not lined, common - " painted or lacquered* boxes, of soft wood* - cooper's goods - not mentioned -	- ad val. - 100 m. - 100 " k. g. - ad val. - 100 k. n. " " ad val. 100 k. g. ad val.	exempt 10% (a) exempt exempt exempt exempt exempt 18 % see note. 18 00B 12 00B 25 00B 10 % 4 00B 10 %	a. b. c. for d. add 3 fra. per 100 kilos. gross. exempt exempt exempt 2 40 6 00 4 80 4 80 18 % 15 60 14 40 30 00 37 20 4 80 18 %
687	Furniture : of bent wood, for seats, tables, bedsteads. other furniture -	100 k. g. ad val.	7 00B 10 %	18 % 18 %

B Or, at importer's option, ad val. 10 %.

⁶⁸⁶ This class is for those manufactures in wood, which are not in basket work, mercery, tabletterie, or toys. Casks with an excessive number of iron hoops would be taxed for the unnecessary hoops. Small barrels of less than 10 litres capacity are cooper's goods. Hair brooms are mercery in the GENERAL TARIFF; manufactures in hair (crin) in the TREATY TARIFF. Spoons and forks of boxwood are taxed 10% ad valorem in the TREATY TARIFF. They are mercery in the GENERAL TARIFF. Iron fittings on framing, &c. would be separately taxed as iron wares. Parts of wheels, and spokes, &c. are carriage building. Sabots lined in the GENERAL TARIFF are classed with mercery; in the TREATY TARIFF with sabots not lined, painted, &c.

⁶⁸⁷ Metal furniture is classed with the metals it is made of. Household goods of strangers settling in France, obviously not new, are free.

⁶⁸⁸ Goods and linen of travellers.—When used and appropriate to the social position of the owners, these articles are not taxed. When new they pay, under the TREATY TARIFF, the duties of clothes and made-up goods; and, in GENERAL TARIFF, the duty of the material of which they chiefly consist; or, if that is prohibited, then ad valorem 36 %. Linen goods made of linen pay the duty of the cloth plus 10 % made of cotton they pay 36 %.

(a) The importer may select the General Tariff.

Note.	IN VARIOUS MATERIALS.	Unit of Taxation.	Treaty (net).	General (4% added).
	1. By General Tariff.			<i>a. b. c.</i> for <i>d.</i> add 3 frs.
688	Musical instruments :			
	fifes, flageolets, and galoubets -	each	—	0 75
	flutes, kits, and triangles -	"	—	0 90
	citherns, mandolines, psalteries, and lutes, drums, tambourines, kettle-drums, dulcimers, and cymbals (per pair).	"	—	1 80
	altos, viols, violins, bassoons, guitars, and lyres -	}	"	3 60
	bird organs -			
	horns, serpents, trumpets, and trombones -			
	clarionets and hautbois -	"	—	4 80
	simple hurdygurdys -	"	—	6 00
	violincellos, double bass, Chinese bells, and big drums.	"	—	9 00
	spinets, harmonicas, hurdygurdys, and portable organs.	"	—	21 60
	harps -	"	—	43 20
	pianos, square -	"	—	360 00
	" grand and cottage -	}	"	480 00
	church organs -			
	not mentioned -	"	Same tax as instruments resembling them.	
	detached pieces of musical instruments. <i>See the Note (688).</i>			
689	Wearing apparel :			
	made-up linen. <i>See the Note (689).</i>	ad val.	—	36 %.
	clothes, new, dress and other articles of personal property of travellers.			
	" new, other kinds. <i>See the Note (689).</i>			
	" old -	100 k. n.	—	61 20
690	Old packing materials used. <i>See the Note (690).</i>	—	exempt	—
691	Curiosities for collections not suitable for commerce (691).	ad val.	exempt	exempt.
	2. By Treaty Tariff.			
688	Musical instruments and detached pieces thereof.	ad val.	10 %.	—

ROYAL COMMISSION FOR THE PARIS UNIVERSAL EXHIBITION OF 1878.

The following information as to the Protection of Unpatented Inventions and unregistered Designs during the Exhibition, and the Conditions on which Patents are granted in France, has been drawn up for the guidance of the Exhibitors in the British Section, by command of His Royal Highness the Prince of Wales, President of the Royal Commission.

PROTECTION OF UNPATENTED INVENTIONS, AND UNREGIS- TERED DESIGNS DURING THE EXHIBITION.

1. Every exhibitor at the Paris Exhibition of 1878, being the **AUTHOR** or **OWNER** of an invention or design, susceptible of being patented or registered in France, can obtain, upon demand, a **CERTIFICATE** protecting his invention or design.

2. The demand, which must be made before the 31st of May 1878, must be addressed to the **Préfet du Département de la Seine, PALAIS DU LUXEMBOURG, PARIS, Bureau des Brevets d'Invention**, and must be accompanied, under sealed cover, by the **CERTIFICATE** of admission to the Exhibition, by an **EXACT DESCRIPTION**, in French, of the object intended to be protected; and if this description cannot be made plain without plans or drawings, they must be furnished under the same cover.

3. The certificate will be granted **GRATUITOUSLY**, and will be in force from the day of admission to the end of the third month following the close of the Exhibition, namely, to the 31st of January 1879; and will ensure to the person who obtains it the **SAME RIGHTS** as would be conferred on him by a patent or registration, without prejudice to any application for a patent or registration that he may wish to make before the expiration of this period.

4. All applications, as well as decisions arrived at by the Prefect, will be entered in a special register, which will be open to the inspection of any applicant, free of charge.

CONDITIONS ON WHICH PATENTS ARE GRANTED IN FRANCE.

To obtain a patent in France the inventor or his agent must deposit, under a sealed cover, at the office of the Secretary of the Prefecture in the Department in which he resides, or any other Department, in which case he must elect a domicile in said Department:—

1st. His petition to the Minister of Agriculture and Commerce.

2nd. A specification of the discovery, invention, or application forming the subject of the petition.

3rd. The drawings or specimens necessary to explain the specification.

4th. A duplicate of the specification and drawings.

5th. A complete list of the documents deposited.

6th. A power of attorney when application is filed through an agent.

The demand must be limited to a single principal object, with its details and applications, which must be fully described.

It must mention the duration of the term required, namely, whether the patent is desired for 5, 10, or 15 years. (In practice, application is always made for the longest term, i.e., 15 years.)

The *Title* must designate clearly the object of the invention.

The specification must be in French and the drawings must be in ink to a metrical scale.

All documents must be signed by the applicant or his agent, duly authorised by power of attorney.

A receipt must be produced showing the payment of 100 francs on account of the tax of the patent, before the documents can be deposited. This payment must be made at the Recette Centrale des Finances, du Département de la Seine, rue St. Hyacinthe, St. Honoré, No. 4, any day from 10 a.m. to 3 p.m., or at the Recette Générale of the department where the demand is made.

The duration of the patent begins from the day of deposit.

Patents demanded in due form are delivered without previous examination, at the applicant's own risk, and without guarantee as to the reality, novelty, or merit of the invention, or the accuracy or exactness of the specification.

All specifications, drawings, specimens, and models of patents remain, until the expiration of the patent, deposited at the Ministry of Agriculture and Commerce, where they may be inspected free of charge by every applicant. Office copies of same may be obtained on petition to Minister of Agriculture and Commerce, accompanied by voucher of payment of government tax of 25 francs, plus copying cost of the drawings filed.

The patents are null and void—

1. When the discovery, invention, or application is not new.
2. When the discovery, invention, or application relates to matters which are not patentable; (a.) pharmaceutical compositions or remedies of all kinds; (b.) schemes and combinations referring to credit or finance.
3. Whenever they refer to theoretical or merely scientific principles, methods, systems, discoveries and conceptions, the *industrial* applications of which are not indicated.
4. When the discovery, invention, or application is known to be contrary to public order or safety, to morals or to the existing laws of the country.
5. Whenever the *Title* under which the patent has been demanded indicates fraudulently another object than the real object of the invention.
6. Whenever the specification accompanying the patent is not sufficient for working the invention, or whenever it does not completely or fairly point out the real means employed by the inventor.

Improvements on the original inventions may be protected at any time and as often as required, during the existence of the Letters Patent, by means of "Certificates of Addition" which are grafted on, and expire with the latter. The formalities for the obtainment of such Certificates of Additions are the same as prescribed for the original grant, but the government tax is reduced to 20 francs on each, once paid for the whole term. During one year from date of original patent, the improvements introduced by the grantee take precedence of all others, even should the same improvements have already occurred to any third party, and been by him included in a substantive patent application at any time within that year. This provision of the law is seldom made available in practice.

Any invention or application to which in France OR ABROAD, and before the date of the petition, sufficient publicity has been given to enable the same to be worked, will not be considered new.

The patentee forfeits his rights—

1. If he has not paid the tax of 100 francs before the beginning of each year of the term of his patent.
2. If he has not worked his discovery or invention in France within the term of TWO YEARS FROM THE DATE OF THE SIGNATURE of his patent; or has ceased to work it during two consecutive years, unless in the one or the other case he justifies himself as to the cause of his inaction to the satisfaction of the tribunal called on to pronounce the forfeiture.

8. If he has introduced into France OBJECTS MANUFACTURED ABROAD, and similar to those which are protected by his patent.

Nevertheless the Minister of Agriculture and Commerce may upon application to that effect grant a permit for the introduction :

(a.) Of models of machines.

(b.) Of objects manufactured abroad,* intended for public exhibitions or for experiments made with the assent of the Government.

The author of an invention or discovery already patented abroad may obtain a patent in France ; but, as above noted, previous publication in any country renders invalidable the patent so obtained, which in any case expires with the original foreign grant.

The tax on patents is for 5 years 500 francs, for 10 years 1,000 francs, and for 15 years 1,500 francs, payable yearly in instalments of 100 francs. So that a patent can be protected for one or two years for 100 or 200 francs, and the manufacturer need not begin to put his invention into operation until near the end of the two years. Probably by that time he will know whether his patent will be a success. If it is thought, on the other hand, that it will not pay, then the patent right can be allowed to lapse by simple non-payment of the subsequent annual taxes.

It is an important feature of the French Law that the patentee is compelled to manufacture in France all the objects protected by his patent which are intended for use in that country.

TRADE MARKS.

According to the Commercial Treaties of 1860 and 1878 between France and England, a subject of the United Kingdom can claim an exclusive right to the sole use, as owner, of marks of manufacture or trade marks in France, such marks consisting of names used in a distinctive form, appellations, emblems, impressions, stamps, seals, vignettes, relieves, letters, cyphers, wrappers, and all other signs used to distinguish products of manufacture or articles of commerce.

To obtain this right the owner must deposit two copies of the representation of the mark at the office of the Tribunal of Commerce of the Department of the Seine, Boulevard du Palais : When deposit is made by an agent, he must produce a power of attorney, legalised by French Consul, of owner's residence and subsequently registered in Paris.

A fee of one franc is required for drawing out the statement of deposit of each mark and for the cost of the duplicate, exclusive of the stamp and registration expenses.

DESIGNS FOR PROTECTION OF ORNAMENTATION ONLY.

The Treaty of Commerce of the 23rd of January 1860 between France and Great Britain secures the same amount of protection to British subjects as to French citizens for the property in designs.

* In answer to an inquiry addressed by the Secretary of the Royal Commission to the French authorities as to—1. The number of objects manufactured abroad admissible under this clause ; 2. Whether they must of necessity be re-exported ?—the following letter has been received from M. Berger, the Director of Foreign Sections at the International Exhibition of 1878 :—

"Article 32 of the law of the 5th of July 1844 forbids, in principle, the manufacture abroad of apparatus patented in France, and declares the patent to become null and void in case of the infringement of this regulation by the patentee. As an exception, and in the interest of public exhibitions, a law of the 31st of May 1856 has allowed the importation into France of such objects under the circumstances mentioned in your note. This importation must be authorised by the Minister of Agriculture and Commerce. The law of 1856 does not determine the number of machines which may be sent, nor does it expressly forbid the sale of the apparatus. But on account of the character of this law and of the reasons for its introduction, I think it would be better for your (British) manufacturers not to sell in France the objects they will exhibit ; they would run the risk of being proceeded against in the French Law Courts on the charge of fraudulent imitation and of being liable for damages. It rests with the Minister of Agriculture and Commerce, in granting the authorisation required by the law of 1856, to determine the number of the machines."

A representation of the design to be protected must be deposited under cover with the Secretary of the "Conseil des Prudhommes," Boulevard du Palais, Paris.

In making the deposit the party doing so will make a declaration to the effect that it is his intention to retain the ownership for one, three, five years, or perpetually. The person lodging the design will have to pay a duty which cannot exceed one franc per annum, and which is ten francs in perpetuity. A certificate of deposit delivered to the depositor constitutes his title.

The Exhibitors who have obtained admission to the Exhibition for a design may in common with inventors avail themselves of the conditions of the law of the 23rd of May 1868, relating to the provisional guarantee for inventions and designs admitted to the Exhibition.

INDUSTRIAL MODELS FOR PROTECTION OF SHAPE ONLY.

The Treaty of Commerce between France and Great Britain of the 23rd of January 1860 secures to British subjects the same rights as to French citizens with regard to industrial models. A drawing representing the model or a model must be lodged under cover with the clerk of the "Conseil des Prudhommes," and the same formalities are to be observed, and the same duty is to be paid, as for designs.

Since publication of the above, the following project of law has been received with the letter of which a copy is annexed as a footnote.

No. 419.

CHAMBER OF DEPUTIES.—SECOND LEGISLATURE.—SESSION OF 1878.

Annex to the Report of the Sitting of 21st February 1878.

BILL.

Departure, during the period of the Universal Exhibition of 1878, from Article 32, paragraphs 2 and 3, of the Law of the 5th July 1844, touching the Patenting of Inventions.

Presented in the name of MARSHAL MACMAHON (DUC DE MAGENTA),
President of the French Republic,

BY

M. TISSERAND DE BORT, Minister of Agriculture and Commerce.

EXPLANATION OF CAUSES.

GENTLEMEN,

We have the honour of submitting for your approval a Bill modifying two provisions in the law of the 5th July 1844, touching the patenting of

(Translation.)

Department of the Minister of Agriculture and Commerce.

Champ de Mars, Avenue de la Bourdonnaye, Porte Rapp,
Paris, 14th March 1878.

I HAVE the honour to forward you a copy of the statement of the reasons and of the Bill presented to the Chamber of Deputies by the Minister of Agriculture and Commerce, for authorising the introduction into France of machines patented in France but manufactured in England, and for comparing with the working of the patent the fact of having exhibited a patented machine.

I believe that the Chambers will examine this scheme in a very few days, and I do not doubt but that they will adopt it in its entirety. You can, however, after this, publish the document which I send you; it has been inserted in the "Journal Officiel," and has, consequently, been made public.

Monsieur Philip Cunliffe Owen, C.B.,
Secrétaire Général de la
Commission Royale Britannique.

(Signed) G. BREWER,
Director of the Foreign Sections in the
Universal Exhibition.

inventions, so as to give to the holders of patents who will take part in the International Exhibition of 1878 two concessions, which appear naturally to increase the interest of this Exhibition. These modifications do not alter the principles upon which the legislation as to patents in France is laid down; they will have, moreover, a character essentially transitory, limited to the exact duration of the Exhibition.

These modifications touch upon paragraphs 2 and 3 of Article 32 of the law of the 5th July 1844.

Article 32 provides that, "shall be deprived of his rights, § 2, the patentee who shall not have put into working order his discovery or invention within the space of two years, dating from the day of the signing of the patent, or who shall have ceased to work it for two consecutive years, unless that in either case he can justify the causes of his inaction.

" § 3. The patentee who shall have introduced into France articles manufactured in foreign countries and similar to those which are guaranteed in his patent.

" Nevertheless, the Minister of Agriculture and Commerce shall have power to authorise the introduction (1st) of models of machines, (2nd) articles manufactured abroad for public exhibitions or for trials made with the assent of the Government."

The drawing up of this paragraph 3 follows from the law of the 20th-31st of May 1856, which has modified, in this particular, the law of the 5th July 1844.

We will point out summarily the considerations which have called for the exceptions which we propose to you to admit relative to these two instances of forfeiture.

Concerning the forfeiture resulting from the non-working of the patent within a space of two years, dating from the day of the signing of the patent, the English Commission of the Exhibition of 1878 had prayed that English subjects, holders of patents in France, and not having yet worked their invention, should be exempt from the forfeiture before mentioned.

The Committee on contested claims, appointed by the Commissariat Général, were of opinion that this request could be entertained, that is to say, that the fact of having exhibited should be considered as the actual working of the patent, but with this exception, that the facility desired should be general, and should apply to all holders of patents taken out in France, whether Frenchmen or foreigners, without distinction as to nationality.

It is of importance to remark that the forfeiture for non-working is not so peremptory as that which results from the non-payment of the annual instalments before expiry (§ 1, Art. 23). The forfeiture for non-working during the space of two years can be decreed by judicial authority alone, summoned to ascertain whether the causes shown by the patentee in justification of the delay in working are or are not substantiated. The law is, moreover, very considerate on this point, doubtless on account of the vast interests which this forfeiture would affect.

The principle of the exception in favour of the holder of the patent (who shall have exhibited) admitted, there remained to determine the date, and the term for this exception. As to the term there is no difficulty; it must be fixed at the close of the Exhibition; for the date, it had to be considered if it should be fixed on the day of admission, or on that of the opening of the Exhibition.

The date of admission to the Exhibition might vary several months, the date of the opening of the Exhibition, on the contrary, was precise and bore an official character. It appeared then that hesitation was not possible, and that this last date must be preferred.

In this train of thought, the first article of the law enacts that every patentee, Frenchman or foreigner, who shall exhibit at the Universal Exhibition of 1878 an article similar to that which is guaranteed in his patent, shall be considered as having worked his discovery or his invention in France

from the official opening of the Exhibition, and that the forfeiture contemplated in Art. 32, § 2, of the law of the 5th July 1844, and not yet incurred, should be held in abeyance, the delay for the forfeiture should commence afresh, dating only from the official closing of the Exhibition.

The aim of paragraph 3 of Article 32 of the law of 5th July 1844 is to protect the national industry. As well as we remember it, this article condemns to forfeiture of his rights, the patentee who shall have introduced into France articles manufactured abroad and similar to those which are guaranteed in his patent.

Nevertheless, the law has admitted exceptions which are thoroughly justified, the one authorising the introduction of models of machines, the other the introduction of articles manufactured abroad, destined for public exhibitions or for trials made with the assent of the Government.

These exceptional introductions must be authorised beforehand by decrees of the Minister of Agriculture and Commerce. No fresh provision is desired as to the introduction of models of machines and of articles manufactured with a view to trials to which the Government has given its assent, but it is asked if it would not be more expedient to exempt the holders of patents, by a special authority, granted by the minister, for the introduction of machines manufactured abroad and destined for the Exhibition.

The Committee on contested claims has expressed on this point a favourable opinion. The request for the authority, the examination of this request, and the correspondence which must take place with the customs, necessitate a certain delay.

It appears that, in granting to every holder of a patent whilst the Exhibition lasts the privilege of introducing directly into France, and without previous authority, articles manufactured abroad, the principle which has determined the drawing up of paragraph 3 of Article 32 of the law of the 5th July 1844, would not be disregarded, conditionally always that this privilege should only apply to a single specimen of the article patented. This condition renders every abuse impossible, which would be prejudicial to the interests that the law has had in contemplation to protect.

"The authority of the Minister of Agriculture and Commerce, required by the law of 20th-31st May 1856, will not be necessary for the introduction into France of a single specimen, manufactured abroad, of an invention patented in France, and which will be admitted to the Universal Exhibition of 1878.

"The forfeiture contemplated in Article 32, § 3, of the law of the 5th July 1844 will be incurred if this specimen is not re-exported in the month of the official closing of the Exhibition.

"The ministerial authority will still be necessary for the introduction of several specimens, agreeably to the law above quoted of 20th-31st May 1856."

BILL.

THE PRESIDENT OF THE FRENCH REPUBLIC

DECREES:

THE Bill of the following tenor shall be presented by the Minister of Agriculture and Commerce, who is directed to explain the reasons of it, and to maintain the debate respecting it.

ARTICLE 1.—Every patentee, whether a Frenchman or a foreigner, who shall have exhibited at the Universal Exhibition of 1878 an article similar to that which is guaranteed in his patent, shall be considered as having worked his discovery or his invention in France, from the official opening of the Exhibition.

The forfeiture contemplated in Article 32, § 2, of the law of the 5th July 1844, and not yet incurred, shall be held in abeyance. The delay for the forfeiture shall commence afresh, dating only from the official closing of the Exhibition.

ARTICLE 2.—The authority of the Minister of Agriculture and Commerce, required by the law of 20th–31st May 1856, will not be necessary for the introduction into France of a single specimen, manufactured abroad, of an invention patented in France and which shall be admitted to the Universal Exhibition of 1878.

The forfeiture contemplated in Article 32, § 3, of the law of the 5th July 1844, will be incurred if this specimen is not re-exported in the month of the official closing of the Exhibition.

The ministerial authority will still be necessary for the introduction of several specimens, agreeably to the law above quoted of 20–31st May 1856.

Given at Versailles, the 31st February 1878.

(Signed) **MARSHAL MACMAHON**, Duke of Magenta,
President of the French Republic.

By the President of the French Republic.

(Signed) **TEISSERENC DE BORT**,
The Minister of Agriculture and Commerce.

STATISTICAL SUMMARY FOR THE UNITED KINGDOM, 1867-76.

GENERAL STATISTICAL SUMMARY.

	1867.	1876.
Population - - - -	30,334,900	33,093,439
Revenue receipts* - -	69,000,718 <i>l.</i>	78,965,066 <i>l.</i>
Ditto per head of population - -	2 <i>l.</i> 8 <i>s.</i> 6 <i>d.</i>	2 <i>l.</i> 7 <i>s.</i> 6 <i>d.</i>
National debt - - -	770,188,635 <i>l.</i>	712,931,555 <i>l.</i>
Value of imports - - -	275,183,137 <i>l.</i>	375,154,703 <i>l.</i>
Ditto per head of population - -	9 <i>l.</i> 1 <i>s.</i> 5 <i>d.</i>	11 <i>l.</i> 6 <i>s.</i> 3 <i>d.</i>
Value of Exports of British produce -	160,961,923 <i>l.</i>	200,639,204 <i>l.</i>
Ditto per head of population - -	5 <i>l.</i> 19 <i>s.</i> 4 <i>d.</i>	6 <i>l.</i> 1 <i>s.</i> 3 <i>d.</i>
No. of Paupers receiving relief - -	1,148,643	906,983
Railways, miles open - -	14,247	16,873
Passengers conveyed - -	267,807,904	538,661,722
Net traffic receipts - -	19,631,047 <i>l.</i>	22,930,266 <i>l.</i>

Population.—The population of the several divisions of the United Kingdom, estimated to the middle of each year, was as follows:—

Divisions.	1867.	1876.
England and Wales - - - -	21,608,286	24,244,010
Scotland - - - - -	3,244,264	3,527,811
Ireland - - - - -	5,482,459	5,321,618
Total for United Kingdom - -	30,334,900	33,093,439

Emigration.—The tide of emigration has very much lessened during the last few years, scarcely half the usual number having left. The total number of emigrants of British origin in the 10 years ending 1876 was 1,762,986, but in the last seven years there have been no less than 563,585 immigrants.

Property and Profits.—The following table gives the annual value of the various classes of property and profits assessed for income tax in each of the years 1866 and 1875:—

Class of Property.	1866.	1875.
	£	£
Land - - - - -	63,414,261	66,811,463
Houses - - - - -	70,213,178	94,637,376
Mines - - - - -	5,080,304	14,107,990
Ironworks - - - - -	1,840,060	7,200,802
Railways - - - - -	18,536,939	27,545,103
Canals, gas works, quarries, and other profits.	3,087,848	3,801,308
	161,173,574	214,264,248

The gross annual value of property in the United Kingdom assessed for income tax rose from 396,000,000*l.* in 1867 to 571,000,000*l.* in 1876, being an increase of 175,000,000*l.*, or at the rate of 17½ millions yearly.

The Times in a most elaborate article at the close of 1877 stated that:—

“The usual accumulations of capital in England cannot be reckoned at less than 200,000,000*l.* a year. Annually there is a vast expenditure in improving land, in new buildings, in railway works, in new plant and machinery for every species of industry, in new furniture for dwelling-houses, in streets and other improvements by local authorities, in additions in some form or another to the various descriptions of fixed capital which an old country possesses. In all these directions the annual outlay in the United Kingdom must come to at least about the amount stated. We know from the income tax returns that the annual value of house property alone in the ten years ending 1875 rose from 69 to 95 millions sterling, an increase of no less than 26

* These amounts represent public revenue only. The amount levied by direct and indirect local taxes for the purposes of local expenditure was, in the last year for which returns have been obtained, 26,250,000*l.*: thus raising the total revenue of the country received in 1876 to nearly 106 millions sterling.

millions sterling, representing an increased capital value of 150 millions sterling, or 15 millions a year. The railway capital at the same time, according to the railway returns, increased from 455 to 630 millions, or 175 millions, that is at the rate of $17\frac{1}{2}$ millions yearly. The mines, canals, gas works, quarries, iron works, and "other profits" also show in the same period an increase of 17 millions in the annual value assessed to the income tax, which represents at a moderate estimate an annual addition of about 20 millions a year to the capital of the country. The sums thus enumerated amount to nearly 100 millions, and they include nothing for the investment of capital in many other forms of business, though we know that business in these forms has increased even more rapidly than the descriptions of property above enumerated. Exclusive of the above the increase of Schedule D (gains arising from profession or trade) between 1865 and 1875 amounted to 114 millions; and the increase of capital to correspond, whatever way we reckon the capital value of the increased income, must be immense. The amounts enumerated also include nothing for furniture and works of art, the contents of houses, although the annual additions to these are probably not less than the annual additions to the dwellings themselves. The estimate therefore of 200 millions as the annual savings of the United Kingdom is by no means an extravagant one."

Savings Banks.—Capital of savings banks in the United Kingdom at the end of each year:—

	1866.	1876.
Savings banks under trustees -	£ 38,333,000	£ 43,363,000
Post office savings banks -	8,181,000	26,996,000
Total -	44,508,000	70,379,000

Taxation.—In the ten years ending 1876 a material reduction of taxation took place, amounting to nearly 16 $\frac{1}{2}$ millions.

	Repealed or Reduced.	Imposed.	Actual Diminution.
	£	£	£
Customs - - -	7,546,396	2,533	7,546,708
Excise - - -	1,021,000	233,000	789,000
Property and income tax -	6,966,000	5,016,151	1,919,889
Other taxes - - -	4,944,933	—	4,944,933
Stamps - - -	1,537,400	—	1,537,400
	21,968,629	5,250,684	16,737,965

Agriculture.—The official returns, collected annually, only furnish the statistics of the live stock and of the extent of land under cultivation, but there are no returns published of the quantities of corn, meat, wool, and dairy produce obtained. These, therefore, can only be roughly estimated.

Land under Cultivation.—The following table shows the extent of land under cultivation in each division of the kingdom, as returned for 1876:—

Divisions.	Total Area.	Total Acreage under all kinds of Crops, Bare, Fallow, and Grass.	Acreage under Corn Crops.	Acreage under Green Crops.
	Acres.	Acres.	Acres.	Acres.
England - - -	38,597,398	24,194,091	7,378,336	2,754,808
Wales - - -	4,781,833	2,713,097	468,966	129,636
Scotland - - -	19,496,133	4,637,893	1,407,515	666,974
Great Britain - -	58,815,363	31,544,081	9,184,799	3,574,348
Ireland - - -	20,819,947	15,794,954	1,946,487	1,375,534
Isle of Man - - -	145,325	93,588	26,351	13,045
Jersey - - -	23,717	19,394	3,660	7,359
Guernsey - - -	19,606	11,533	1,979	3,366
United Kingdom -	77,828,947	47,398,450	11,064,946	4,960,166

Crops.—The total acreage under each of the principal grain crops was as follows:—

Crops.	1867	1876.
	Acres.	Acres.
Wheat - -	3,640,923	3,124,342
Barley - -	2,439,947	2,762,363
Oats - -	4,421,998	4,289,828
Rye - -	60,618	64,961
Beans - -	547,755	528,556
Peas - -	320,667	225,012
	11,431,940	11,064,946

The home production of wheat is far short of the quantity required for consumption, as will be seen from the following tables, and by a reference to the introductory remarks to Class 69.

The extent of land under wheat and the nature of the crops in the United Kingdom for the last ten years are given below:—

Year.	Acres.	Character of the Crop.	Assumed yield per Acre in Bushels.	Available for Consumption after deducting Seed, in qrs.
1868 - -	3,951,000	Much over average	34	15,790,000
1869 - -	3,982,000	Under average -	27	12,460,000
1870 - -	3,773,000	Over average -	32	14,100,000
1871 - -	3,831,000	Under average -	27	11,970,000
1872 - -	3,840,000	Much under -	23	10,110,000
1873 - -	3,670,000	Much under -	25	10,550,000
1874 - -	3,833,000	Over average -	31	13,700,000
1875 - -	3,514,000	Much under -	23	9,124,000
1876 - -	3,125,000	Under average -	27	9,668,000
1877 - -	3,321,000	Much under -	24	9,035,000
Average of 10 years -	3,664,000	Under the standard av. of 29½ bushels	27½	11,653,700

The following table shows the extent of the dependence of the country upon foreign supplies of wheat during the same decimal period:—

Harvest Year. Sept. 1st to Aug. 31st.	Home Produce available for Consumption, in qrs.	Imports of Wheat and Flour during the Harvest Year. Exports deducted, in qrs.	Total available for Consumption, in qrs.	Average Price of British Wheat for Twelve Months. July 1st to June 30th.
1867-8 -	10,390,000	9,010,000	19,400,000	s. d. 69 3
1868-9 -	15,790,000	7,890,000	23,670,000	51 8
1869-70 -	12,460,000	9,580,000	22,070,000	45 11
1870-1 -	14,100,000	7,950,000	22,050,000	53 5
1871-2 -	11,790,000	9,320,000	21,290,000	55 3
1872-3 -	10,110,000	11,720,000	21,830,000	57 1
1873-4 -	10,550,000	11,230,000	21,780,000	61 3
1874-5 -	13,700,000	11,640,000	25,340,000	46 4
1875-6 -	9,124,000	13,940,000	23,064,000	46 3
1876-7 -	9,668,000	12,150,000	21,818,000	55 8
Aver. of 10 yrs.	11,789,200	10,442,000	22,231,200	54 2

The number of the live stock in the United Kingdom in each of the years 1867 and 1876 is shown below:—

	1867.	1876.
Horses - -	2,000,000	2,833,741
Cattle - -	8,736,898	9,997,189
Sheep and lambs -	33,827,455	32,252,579
Pigs - -	4,222,398	3,734,429

Forests.—The extent of land under woods, coppices, and plantations in the United Kingdom is about 2,500,000 acres. There are no returns of the quantity of timber produced, but its annual value has been estimated at about two millions sterling.

Mines.—The quantities of coal and of metals produced in the United Kingdom in each of the years 1866 and 1875 were :—

—			1866.	1875.
Coal	-	tons	101,630,000	133,364,000
Pig iron	-	"	4,523,000	6,556,000
Fine copper	-	"	11,153	4,069
Metallic lead	-	"	67,390	53,697
White tin	-	"	9,990	8,500
Zinc	-	"	8,192	6,641
Silver, from lead	-	ozs.	636,000	483,000

Fisheries.—The present condition of the British sea fisheries is satisfactory. While they occupy an important position among the industries of the United Kingdom, from adding largely to the food resources of the country, they also contribute to the development of particular trades and manufactures, all of which are of essential importance to a maritime people like our own, and they are a regular means of training a large number of men and boys for a sea-faring life.

The great extension of the railway system in the kingdom has had a most beneficial effect upon the fisheries. All the inland towns are as regularly supplied with fish as the metropolis itself, and, as a natural consequence, the increased demand has naturally led to marked improvements not only in the fisheries themselves, but in all branches of trade connected with them.

Under the Sea Fisheries Act of 1868 all boats or vessels belonging to the United Kingdom, of whatever size and however propelled or navigated, which are employed in sea fishing for the purposes of sale, are obliged to be registered at the Custom House, and to have their port, letter, and number marked in a conspicuous manner on their bows, and, where it can be done, on their principal sail. For the better distinguishing of harbour, coast, and deep-sea fishing boats, they are divided into three classes, as follows :—

1st class boats of 15 tons burthen and upwards.

2nd class boats of less than 15 tons burthen, navigated otherwise than by oars only.

3rd class boats navigated by oars only.

The cost of trawl-boats, owing to their larger size and the greater expense of all the materials used in their construction, has increased within the last 15 years from 700*l.* or 800*l.* to upwards of 1,200*l.* each.

Total number of fishing boats registered in the United Kingdom in 1870 and 1876 :—

Class of Boats.		1870.	1876.
First-class boats	No.	5,243	6,593
" "	tonnage	139,197	178,553
Second-class boats	No.	26,613	21,931
Third-class boats	No.	11,016	7,475
		Boats.	Boats.
England	-	15,615	14,809
Scotland	-	17,525	14,140
Ireland	-	9,005	6,144
Channel Islands	-	723	906
Total	-	42,877	35,999

Boats in the first class range from 15 to over 80 tons, and those in the second and third classes together include everything under 15 tons down to the smallest boat.

118,226 men and boys were returned as employed in working about 30,300 of these boats, and 60,500 more men and boys were constantly employed in fishing resident within the limits of the different ports. The number of persons other than fishermen occasionally employed in fishing was 59,263.

Factories.—The statistics of the number of factories in operation, and of the number of operatives employed in them, as well as the power of machinery, &c., will be found in the notes to the respective class included in the fourth group of the classification, commencing with Class 80.

Internal Trade.—The increase of the internal trade may to some extent be measured by the increased traffic on railways and canals, and by the carriage of goods by sea along the coasts of the kingdom. There are no returns of canal traffic, but the income of goods traffic on railways, and of tonnage employed in carrying goods coastwise, is shown below :—

	1866. £	1876. £
Total traffic receipts on railways in United Kingdom	38,164,000	59,917,000
Tonnage carrying cargoes coastwise - - -	Tons. 18,598,000	Tons. 23,939,090

Foreign Trade.—The progress of the foreign trade of the Kingdom is shown by the following table:—

	1867.	1876.
Imports of merchandise from Foreign countries.	£ 214,448,592	£ 290,822,127
" " from British Possessions.	60,734,545	84,332,576
Total Imports -	275,183,137	375,154,703
Exports of produce of the United Kingdom.	180,961,923	200,639,204
Exports, foreign and colonial produce	44,878,165	56,137,396
Total Exports -	225,835,088	256,776,602

Imports.—The following table shows the principal countries from which goods were imported in 1867 and 1876 :—

Countries.	1867.	1876.
	£	£
Russia - - -	22,286,926	17,574,488
Germany - - -	18,906,913	21,115,189
Holland - - -	10,832,828	16,602,154
Belgium - - -	7,555,208	13,948,898
France - - -	33,734,803	45,304,354
Spain - - -	6,068,318	8,763,148
Italy - - -	3,825,335	4,152,201
Turkey - - -	4,236,616	7,444,323
Egypt - - -	15,498,392	11,481,519
China - - -	9,340,403	14,938,641
Brazil - - -	5,902,011	5,178,388
Chili - - -	4,417,568	3,584,598
United States - -	41,045,957	75,899,008
Peru - - -	8,701,362	5,630,670
British Possessions	60,734,545	84,332,576

Exports (British and Foreign).—The value of British and Foreign and Colonial merchandise exported to the principal countries in 1867 and 1876 is given below :—

Countries.	1867.	1876.
	£	£
Russia - - -	7,250,701	8,635,655
Sweden and Norway - -	2,458,376	6,323,808
Germany - - -	29,868,173	29,734,684
Holland - - -	14,948,824	18,707,800
Denmark - - -	1,562,960	2,598,707
Belgium - - -	7,381,002	12,835,641
France - - -	23,022,420	29,000,273
Spain - - -	2,965,706	4,796,493
Portugal - - -	2,119,875	2,726,509
Italy - - -	5,895,442	8,129,036
Turkey - - -	6,892,750	6,379,902
Egypt - - -	8,371,140	3,687,402
United States - -	24,119,630	20,224,627
Brazil - - -	5,822,918	6,236,366
China - - -	5,109,613	4,719,449
Japan - - -	1,694,000	2,191,487
Chili - - -	2,583,250	2,086,190
Argentine Republic - -	2,909,856	1,597,408
British Possessions	53,362,188	70,149,889

Exports of British Produce.—The value of British produce and manufactures exported to the same countries in the same years, was:—

COUNTRIES.	1867.	1876.
	£	£
Russia - - - - -	3,044,035	6,182,338
Sweden and Norway - - -	1,466,161	4,224,719
Germany - - - - -	20,542,353	20,062,262
Holland - - - - -	9,422,743	11,777,192
Denmark - - - - -	1,282,358	2,199,106
Belgium - - - - -	2,816,481	5,875,407
France - - - - -	12,121,010	16,085,615
Spain - - - - -	2,237,968	3,992,365
Portugal - - - - -	1,823,382	2,231,191
Italy - - - - -	4,981,353	6,689,402
Turkey - - - - -	6,625,496	5,922,825
Egypt - - - - -	8,104,111	2,630,407
United States - - - - -	21,825,708	16,333,517
Brazil - - - - -	5,694,557	5,919,758
China - - - - -	4,993,469	4,611,180
Japan - - - - -	1,545,386	2,032,685
Chili - - - - -	2,524,438	1,945,791
Argentine Republic - - -	2,837,124	1,543,533
British Possessions - - -	40,799,610	64,859,224

Bullion and Specie.—The total value of the registered imports and exports of gold and silver bullion and specie in the ten years 1867 and 1871, inclusive, amounted to—

Imports - - - - -	£300,676,000
Exports - - - - -	242,783,000

Import Duties.—The subjoined table shows the import duties now levied in the United Kingdom upon the few articles of foreign produce still subjected to Customs duty:—

Rates of Duty.	
Beer and ale, per barrel, 8s. to 16s., according to the specific gravity of the worts.	
Mum, per barrel, 1s. 1s.	
Spruce, per barrel, 1l. 1s. and 1l. 4s., according to the specific gravity of the worts.	
Cards, playing - - - - -	per dozen packs 0 5 0
Chicory, raw or kiln dried - - - - -	per cwt. 0 13 3
" roasted or ground - - - - -	per lb. 0 0 2
Chloroform - - - - -	per lb. 0 0 0
Cocoa - - - - -	per lb. 0 0 1
" husks and shells - - - - -	per cwt. 0 2 0
" paste or chocolate - - - - -	per lb. 0 0 2
Coffee, raw - - - - -	per cwt. 0 14 0
" kiln dried, roasted, or ground - - - - -	per lb. 0 0 2
Collodion - - - - -	per gallon 1 4 0
Ether, sulphuric - - - - -	per gallon 1 5 0
Ethyl, iodide of - - - - -	per gallon 0 13 0
Fruit, dried, currants, figs, plums, prunes, raisins - - - - -	per cwt. 0 7 0
Malt, foreign - - - - -	per quarter 1 4 0
Naphtha, or methylic alcohol, purified - - - - -	per proof gallon 0 10 5
Pickles, preserved in vinegar - - - - -	per gallon 0 0 1
Plate, of gold - - - - -	per oz. troy 0 17 0
" of silver, gilt or ungilt - - - - -	per lb. 0 1 6
Spirits—rum, from the country of production - - - - -	per gallon 0 10 2
" not from the country of production - - - - -	per gallon 0 10 5
" brandy, Geneva, and other spirits - - - - -	per gallon 0 10 5
" perfumed, including eau de Cologne - - - - -	per gallon 0 16 6
" shrub and other liqueurs and cordials from British possessions - - - - -	per gallon 0 10 2
" other sweetened - - - - -	per lb. 0 14 0
Tee - - - - -	per lb. 0 0 6
Tobacco, unmanufactured, containing 10 lbs. or more of moisture in every 100 lbs. - - - - -	per lb. 0 3 1½
" containing less than 10 lbs. of moisture in every 100 lbs. - - - - -	per lb. 0 3 6
" manufactured snuff, containing more than 13 lbs. of moisture in every 100 lbs. - - - - -	per lb. 0 3 9
" manufactured snuff, not containing more than 13 lbs. of moisture in every 100 lbs. - - - - -	per lb. 0 4 6
" cigars - - - - -	per lb. 0 5 0
" Cavendish or Negro-head of foreign manufacture - - - - -	per lb. 0 4 6
" other sorts, including cigarettes - - - - -	per lb. 0 4 0
Varnish containing alcohol - - - - -	per gallon 0 13 0
Vinegar - - - - -	per gallon 0 0 3
Wine containing less than 26 degrees of proof spirit - - - - -	per gallon 0 1 0
" 26 and less than 48 degrees - - - - -	per gallon 0 2 6
" and additional for every degree of strength beyond the highest above specified - - - - -	per gallon 0 0 8

Export Duties.—No export duties are levied in the United Kingdom.

Shipping. Vessels belonging to the United Kingdom.—The number of vessels registered as belonging to the United Kingdom, including the Channel Islands, was—

		1867.		1876.	
		No.	Tons.	No.	Tons.
Sailing vessels	-	25,843	4,853,011	21,144	4,257,966
Steam "	-	2,931	901,063	4,535	2,006,347
		28,773	5,753,973	25,479	6,263,333

This return shows a large decrease in the number of sailing vessels, and a considerable increase in steam vessels. While there is a decrease in the total number of ships, the aggregate tonnage is however half a million tons more, showing that a larger class of vessels are now employed than 10 years ago.

Shipbuilding.—In the past 10 years 5,945 sailing vessels, measuring 1,625,881 tons, and 3,755 steam vessels, measuring 2,076,500 tons, have been built, exclusive of those built for foreigners.

Shipping engaged in Foreign Trade.—The total tonnage of British and foreign vessels entered and cleared with cargoes at ports in the United Kingdom has been as follows:—

Years.	British.	Foreign.	Total.	Years.	British.	Foreign.	Total.
	tons.	tons.	tons.		tons.	tons.	tons.
1867	19,942,872	8,246,157	28,189,029	1872	25,714,276	11,440,016	37,154,292
1868	20,474,621	8,550,055	29,024,676	1873	26,127,042	11,906,480	37,984,488
1869	21,355,689	9,047,745	30,403,434	1874	26,761,914	12,072,979	38,834,893
1870	22,243,030	9,331,641	31,574,671	1875	27,307,340	12,146,327	39,453,667
1871	24,046,703	10,556,094	34,602,797	1876	28,573,724	13,063,900	41,637,624

Transshipments.—This branch of trade, which is not included in the above returns, has made great progress during the past 10 years. The total value of the foreign and colonial merchandise transhipped at ports in the United Kingdom in 1867 was 7,720,780*l.*, and in 1876, 10,815,548*l.*

Chambers of Commerce.—There are 66 chambers of commerce in Great Britain; unlike those of the continent they are private bodies, entirely independent of Government control, and are composed of the principal manufacturers and merchants of the locality in which they are established. In addition to watching over the interests of the trades and manufactures of the district with which they are more immediately connected, they take a general interest in all matters affecting the trade of the country. An annual meeting of the Associated Chambers is held in London in the spring of each year for the purpose of discussing questions of home and foreign legislation affecting British trade interests.

Chambers of Agriculture.—At the present time there are in Great Britain 87 provincial chambers of agriculture and farmers' clubs in union with the Central Chamber of Agriculture in London.

Patents, Trade Marks, and Designs.—Foreigners enjoy in the United Kingdom the same privileges as British subjects in all that concerns the protection of patented inventions or registered trade marks, and ornamental and useful designs. As regards trade marks, prior registration abroad is not necessary. The protection afforded by letters patent lasts as a rule for fourteen years, extension of protection beyond that period being very rarely granted. Trade marks are registered in the first instance for fourteen years, at the end of which term they are renewable from time to time for further periods of fourteen years. Useful designs are protected for three years, and ornamental designs, according to the class of design, for various periods up to three years. Under special circumstances the term of protection may be extended for all classes of designs.

For the convenience of visitors to the Exhibition who may be desirous of obtaining information upon the subject, the Commissioners of Patents have furnished the English Commissioners with a supply of printed instructions, to be obtained *gratis* on application at the office of the British Commission

in Paris, for the guidance of persons desirous of taking out letters patent, or of registering trade marks or designs.

Copies of the Acts of Parliament and of the rules under which patents are granted, and of the Acts and rules regulating the registration of trade marks, are also to be obtained at the office of the British Commission, the former for 75 centimes and the latter for 1 fr. 50 cents per copy.

Post Office.—During the past 10 years there has been a steady increase in the amount of correspondence and the revenue derived therefrom. The number of letters delivered in the United Kingdom has risen from 775 millions in 1867 to 1,019 millions in 1876, the latter being in the proportion of 8,079 to every 100 of the population. The number of newspapers and book packets delivered in 1867 was 102 millions, and in 1876, 299 millions. In 1876, 93 millions of post cards were also delivered.

The increase in the postal revenue in the 10 years is shown by the following returns for the years ending 31st March:—

Years.	Gross Revenue.	Expenditure.	Net Revenue.
	£	£	£
1868 - - -	4,683,646	3,206,794	1,416,852
1877 - - -	6,017,072	4,070,006	1,947,066
Increase - -	1,333,426	803,282	530,144

The total number of post offices in the United Kingdom is 13,447, of which 896 are head offices. The total number of postal receptacles is 24,171, as compared with 16,835 10 years ago. Of this number 1,803 are in London.

The money order system of the Post Office is largely made use of, the inland orders having increased in the last 10 years from 31 to about 54 per 100 of the population.

Coinage.—The value of gold, silver, and bronze coined at the Royal Mint during the years 1867 to 1876 is shown below:—

Years.	Gold.	Silver.	Bronze.	Total.
	£	£	£	£
1867 - -	406,397	198,842	33,301	723,540
1868 - -	1,653,384	301,356	16,328	1,971,068
1869 - -	7,372,204	76,428	20,532	7,469,644
1870 - -	2,313,384	336,798	32,704	2,682,886
1871 - -	9,919,656	701,514	7,616	10,628,786
1872 - -	15,261,441	1,248,836	47,418	16,552,691
1873 - -	3,384,608	1,081,974	46,218	4,512,800
1874 - -	1,461,565	890,804	65,632	2,417,801
1875 - -	243,264	594,000	69,318	907,077
1876 - -	4,696,648	222,354	61,450	4,980,452

STATISTICAL SUMMARY FOR THE BRITISH COLONIES AND DEPENDENCIES, 1866-75.

The revenue raised in these possessions increased over 10,000,000*l.*; the shipping frequenting their ports increased by about 12,500,000 tons; the value of their exports increased by 21,000,000*l.*, and their imports in nearly about the same proportion. The importance of the colonial markets to British producers is shown by the returns of imports direct from the parent state, which increased from 59 millions sterling in 1866 to 85 millions sterling in 1875.

AREA AND POPULATION OF THE COLONIAL AND OTHER POSSESSIONS OF THE UNITED KINGDOM.

Possessions.	Area, Square Miles.	Population, 1861.	Population, 1871-1876.
EASTERN.			
British India - - -	907,086	—	190,633,633
Straits Settlements - - -	1,445	232,831	306,007
Ceylon - - -	24,702	1,892,540	2,459,542
Mauritius - - -	713	310,050	339,371
Labuan - - -	30	2,373	4,306
Hong Kong - - -	31	119,321	121,965
Total Eastern - - -	934,007	—	193,897,516

Possessions.	Area, Square Miles.	Population, 1861.	Population, 1871-1875.
AUSTRALASIAN.			
New South Wales - - -	311,000	353,278	606,652
Victoria - - - - -	88,193	541,800	825,372
South Australia - - -	903,690	126,830	210,442
Western Australia - -	1,087,250	15,691	26,709
Tasmania - - - - -	26,215	89,377	103,663
New Zealand - - - -	105,000	98,971	375,366
Queensland - - - - -	669,620	34,885	181,298
Fiji - - - - -	7,403	—	103,400
Total Australasian - -	3,168,276	1,266,432	2,431,282
Falkland Isles - - - -	6,500	566	1,103
AFRICAN.			
Natal - - - - -	18,750	152,704	322,000
Cape of Good Hope - - -	324,100	267,006	848,535
Transvaal - - - - -	114,000	—	300,000
Griqualand West - - -	17,000	—	50,000
Sierra Leone - - - -	468	41,497	55,372
Gold Coast - - - - -	15,000	—	408,070
Gambia - - - - -	69	6,939	14,190
Lagos - - - - -	25	50,000	60,221
St. Helena - - - - -	47	6,860	6,241
Total African - - - -	389,459	525,006	2,064,790
EUROPEAN.			
Heligoland - - - - -	$\frac{1}{2}$	1,800	1,912
Gibraltar - - - - -	$1\frac{1}{2}$	15,642	16,454
Malta and Gozo - - - -	119	136,339	147,306
Total - - - - -	121	153,601	165,672
AMERICAN.			
Ontario and Quebec - - -	301,135	2,507,657	2,312,267
British Columbia - - -	390,244	—	33,536
Manitoba - - - - -	14,000	—	12,728
N.W. Territory, &c. - -	2,650,000	—	60,500
New Brunswick - - - -	27,322	252,047	285,594
Nova Scotia - - - - -	21,731	330,857	387,800
Newfoundland - - - -	40,200	122,638	161,374
British Guiana - - - -	76,000	146,026	193,491
Honduras - - - - -	7,563	25,635	24,710
Bermuda - - - - -	19	11,881	13,302
Total - - - - -	3,528,313	3,398,741	3,965,453
WEST INDIAN.			
Bahamas - - - - -	5,300	35,287	39,162
Turk's Island - - - -	—	4,373	4,723
Jamaica - - - - -	4,193	441,255	506,154
St. Lucia - - - - -	237	26,705	31,610
St. Vincent - - - - -	147	31,755	35,688
Barbados - - - - -	166	153,727	162,042
Grenada - - - - -	133	31,900	40,412
Tobago - - - - -	114	15,410	17,901
Virgin Islands - - - -	—	6,051	6,651
St. Christopher's - - -	68	24,440	23,169
Nevis - - - - -	50	9,822	11,680
Antigua - - - - -	97	37,125	35,642
Montserrat - - - - -	32	7,645	8,603
Dominica - - - - -	291	25,065	27,178
Trinidad - - - - -	1,754	84,428	109,638
Total - - - - -	12,672	553,997	1,035,343

No census for the whole of British India was taken previous to 1871. The area and population above given are exclusive of the Feudatory or Native States, estimated at 546,000 square miles, with a population of 48 millions. Some of the native tribes under British jurisdiction in South Africa are not included, and the Indian population in parts of North America it is difficult to estimate.

COMPARATIVE STATISTICS OF THE BRITISH

Colonies and Possessions.	Gross Revenue.		Shipping. Tonnage entered and cleared, exclusive of Coasters.		Imports, total value, including Specie.	
	1866.	1875.	1866.	1875.	1866.	1875.
	£	£	Tons.	Tons.	£	£
British India - - -	48,936,220	50,570,171	4,160,356	4,855,516	56,156,529	44,365,180
Straits Settlements - -	376,776	320,594	1,897,279	3,235,194	9,700,195	11,593,106
Ceylon - - -	962,574	1,864,123	1,182,325	2,216,403	4,961,061	5,361,249
Mauritius - - -	639,577	692,896	608,156	467,537	2,227,093	2,194,824
Labuan - - -	7,370	8,752	37,363	16,946	109,135	119,363
Hong Kong - - -	160,226	186,818	1,891,681	3,893,687	No retns.	No retns.
	51,062,045	53,133,360	9,777,359	14,665,496	73,154,013	63,574,693
New South Wales - - -	3,253,179	4,121,996	1,514,735	2,168,187	8,867,071	13,490,200
Victoria - - -	2,990,943	4,236,423	1,325,720	1,673,386	14,771,711	16,695,374
South Australia - - -	975,180	1,143,512	539,871	611,381	2,535,142	4,203,802
Western Australia - - -	89,383	157,775	115,736	134,161	251,007	349,840
Tasmania - - -	253,047	345,676	213,968	262,209	882,107	1,185,948
New Zealand - - -	1,978,711	2,813,928	637,232	834,547	5,894,863	8,029,172
Queensland - - -	592,969	111,464	393,656	764,182	2,467,907	3,325,009
Fiji - - -	—	16,255	—	—	—	—
	10,133,811	14,094,829	4,538,968	6,448,562	35,970,706	47,372,839
Falkland Isles - - -	9,024	4,134	80,573	45,362	15,040	42,466
Natal - - -	156,883	280,272	51,769	137,227	263,305	1,268,836
Orange Colony - - -	732,296	2,246,179	478,987	746,356	1,942,281	5,762,743
Sierra Leone - - -	62,263	83,141	138,332	284,463	261,212	326,011
Gold Coast - - -	—	67,368	—	180,174	—	364,672
Gambia - - -	19,060	22,700	55,416	112,338	108,189	142,765
Lagos - - -	—	43,367	—	276,968	220,768	459,737
St. Helena - - -	23,152	13,616	193,382	129,345	112,506	80,937
	998,676	2,736,643	862,896	1,860,870	2,899,259	3,406,693
Hellgoland - - -	4,769	9,848	—	—	—	—
Gibraltar - - -	34,744	42,144	2,128,921	4,163,302	—	—
Malta - - -	196,469	172,968	2,369,314	4,632,457	6,396,305	10,324,587
	235,972	224,900	4,506,235	8,996,759	6,396,305	10,324,587
Dominion of Canada - -	3,469,303	5,135,149	6,379,663	5,329,208	17,505,709	25,639,642
Newfoundland - - -	150,390	182,539	236,246	456,503	1,205,177	1,532,944
Bermuda - - -	26,638	25,722	98,614	126,699	192,123	244,466
Honduras - - -	27,334	41,906	48,581	64,734	169,063	175,331
	3,693,525	5,386,666	6,823,104	5,977,144	19,072,042	27,592,393
Bahamas - - -	53,283	28,981	121,960	142,419	328,632	172,183
Turks Island - - -	16,335	7,723	114,558	129,596	56,091	23,340
Jamaica - - -	334,140	590,938	331,517	766,378	1,030,796	1,769,948
St. Lucia - - -	15,294	25,390	22,920	45,637	91,504	150,740
St. Vincent - - -	21,240	27,362	38,334	48,996	188,188	153,062
Barbados - - -	103,935	132,123	316,321	409,176	988,082	1,187,493
Grenada - - -	21,140	26,570	30,421	168,664	122,965	118,385
Tobago - - -	9,815	11,594	14,070	17,634	87,645	67,772
Virgin Islands - - -	1,994	1,759	8,065	10,639	10,209	4,378
St. Christopher's - -	24,505	26,566	64,474	64,502	175,917	132,353
Nevis - - -	7,016	10,062	17,272	14,530	34,936	25,065
Antigua - - -	69,629	37,818	58,062	60,877	203,227	180,363
Montserrat - - -	5,326	5,473	11,918	15,818	18,665	26,678
Dominica - - -	18,422	22,097	14,123	24,748	62,188	62,512
Trinidad - - -	226,818	341,619	281,304	528,169	990,329	1,597,594
British Guiana - - -	304,517	353,137	536,963	425,430	1,530,675	1,337,158
	933,107	1,658,642	1,782,312	2,859,703	5,799,351	7,406,573

The statistics of the Colonies now forming the combined

COLONIES AND POSSESSIONS.

Imports from Great Britain, including Specie.		Value of Total Exports.		Exports to United Kingdom.		Colonies and Possessions.
1866.	1875.	1866.	1875.	1866.	1875.	
£	£	£	£	£	£	
24,912,617	34,246,716	67,666,477	57,984,540	43,397,640	27,963,488	British India.
2,026,425	2,220,239	9,924,088	11,502,687	1,248,329	2,193,463	Straits Settlements.
1,390,687	1,427,115	5,586,464	5,375,410	2,385,126	3,709,012	Ceylon.
499,100	581,990	2,525,305	2,522,099	718,568	734,250	Mauritius.
1,299	—	58,284	114,334	—	—	Labuan.
No retns.	No retns.	No retns.	No retns.	No retns.	No retns.	Hong Kong.
38,530,128	38,476,060	83,751,118	77,499,079	47,750,163	34,905,213	
3,552,708	6,062,226	8,512,214	13,671,590	3,162,615	6,374,503	New South Wales.
7,846,828	7,809,285	12,889,546	14,766,974	6,754,536	6,980,983	Victoria.
1,890,273	2,381,673	2,868,737	4,806,050	1,155,866	2,612,817	South Australia.
143,521	196,738	152,240	391,217	103,732	248,542	Western Australia.
283,190	805,101	834,606	1,085,976	344,131	510,767	Tasmania.
5,737,702	5,103,610	4,520,074	5,828,627	1,713,062	4,227,760	New Zealand.
742,884	1,262,041	1,366,491	3,857,576	321,930	879,031	Queensland.
—	—	—	—	—	—	Fiji.
16,957,156	23,320,674	31,133,908	44,407,000	13,555,881	21,834,393	
20,946	37,035	21,780	36,939	21,780	38,989	Falkland Isles.
189,399	1,076,057	203,402	835,043	128,093	639,087	Natal.
1,230,529	4,724,053	2,599,169	4,393,320	2,087,663	4,000,158	Cape Colony.
200,265	252,884	259,719	350,208	78,874	118,060	Sierra Leone.
—	270,152	—	327,012	—	240,819	Gold Coast.
64,825	80,996	158,370	147,465	19,201	16,831	Gambia.
128,704	330,823	262,609	517,536	148,443	270,975	Lagos.
63,656	41,484	11,653	23,456	5,261	3,033	St. Helena.
1,927,378	6,776,448	3,495,012	6,594,734	2,467,535	5,283,963	
—	—	—	—	—	—	Heligoland.
26,509	70,364	1,324,406	9,500,011	898,681	5,603,967	Gibraltar.
—	—	—	—	—	—	Malta.
26,509	70,364	1,324,406	9,500,011	898,681	5,603,967	
8,409,008	12,572,306	14,659,307	16,225,454	3,538,707	9,340,188	Dominion of Canada.
531,198	525,199	1,186,314	1,340,001	327,807	485,638	Newfoundland.
38,305	60,368	31,848	61,223	6,925	2,666	Bermuda.
107,784	95,036	277,156	202,512	169,013	104,331	Honduras.
9,176,245	13,252,929	16,184,619	17,830,220	4,042,512	8,882,828	
52,124	43,606	261,976	108,895	63,012	23,070	Bahamas.
9,535	1,916	54,310	26,364	1,493	—	Turks Island.
684,448	966,470	1,852,898	1,410,485	971,080	1,154,016	Jamaica.
81,715	75,121	109,443	159,468	98,789	141,958	St. Lucia.
61,500	59,440	194,175	207,616	183,590	193,623	St. Vincent.
379,725	443,091	1,246,814	1,474,910	817,980	782,434	Barbados.
52,115	57,314	113,237	171,332	96,688	139,908	Grenada.
23,461	26,737	69,872	92,015	63,471	90,205	Tobago.
—	—	8,514	1,889	—	—	Virgin Islands.
94,902	61,598	172,096	140,512	189,178	114,101	St. Christopher's.
8,579	4,565	46,540	57,914	27,845	33,770	Nevis.
72,615	64,293	291,861	219,677	277,386	203,550	Antigua.
1,032	2,286	19,898	33,535	12,366	31,540	Montserrat.
25,941	17,245	106,452	71,623	92,883	58,561	Dominica.
100,666	531,662	1,081,683	1,625,082	825,133	1,220,447	Trinidad.
823,888	927,168	2,170,967	2,337,122	1,742,545	1,744,972	British Guiana.
2,731,960	3,242,402	7,020,605	8,178,557	5,415,933	5,382,164	

Dominion of Canada are given collectively for 1866.

Production of Wool.—The subjoined table shows the increase in the number of sheep and the exports of wool from the several Possessions since the year 1867 :—

Colonies.	No. of Sheep.		Export of Wool.	
	1867.	1876.	1867.	1876.
			lbs.	lbs.
New South Wales - - -	11,562,155	24,382,536	21,708,902	87,534,290
Queensland - - -	8,666,767	7,227,774	21,554,567	20,146,914
Victoria - - -	8,833,139	11,746,532	61,814,116	84,064,962
South Australia - - -	3,911,610	6,179,396	22,653,792	44,508,674
West Australia - - -	537,597	881,861	1,312,016	2,422,160
Tasmania - - -	1,742,914	1,719,768	4,686,814	6,199,245
New Zealand - - -	8,418,579	11,674,863	27,182,966	54,401,640
Total Australia -	43,671,751	63,815,729	150,862,663	300,282,768
India - - -	—	—	20,005,483	21,443,125
Natal - - -	252,577	366,144	1,974,447	8,109,447
Cape Colony - - -	9,836,065	10,976,967	36,028,614	40,339,674
Dominion of Canada -	1,547,163	3,514,719	1,764,648	2,907,329

Gold.—The exports of gold from Australia have fluctuated during the decade, as will be seen from the following figures. The average annual yield of the gold-fields in the last five years was more than $1\frac{1}{4}$ million pounds below that of the previous five years :—

	£		£
1866 - - -	9,618,442	1871 - - -	7,805,222
1867 - - -	8,763,469	1872 - - -	7,590,668
1868 - - -	9,361,191	1873 - - -	9,353,820
1869 - - -	10,382,965	1874 - - -	7,658,751
1870 - - -	8,237,667	1875 - - -	6,942,756
	<u>46,373,444</u>		<u>39,162,237</u>
Average -	9,274,688	Average -	7,832,447

Sugar.—The quantity of raw sugar exported from the principal British possessions, notwithstanding the competition of beet-root sugar, has maintained its ground, having amounted to 7,765,938 cwt. in 1866, and 7,801,881 cwt. in 1875.

Railways.—The mileage of railways open for traffic in the British Colonies and possessions at the end of each year was :—

	1870.	1876.
	Miles.	Miles.
British India - - -	4,832	6,497
Ceylon - - -	70	91
Mauritius - - -	66	68
New South Wales - - -	335	554
Victoria - - -	276	702
South Australia - - -	133	323
Western Australia - - -	—	38
Tasmania - - -	—	172½
New Zealand - - -	39	718
Queensland - - -	208	298
Natal - - -	5	5
Cape of Good Hope - - -	60	149
Dominion of Canada - - -	4,000	4,443
Jamaica - - -	25	25
Trinidad - - -	—	16
British Guiana - - -	20	21
Total - - -	10,067	14,122½

TRADE BETWEEN THE UNITED KINGDOM AND FRANCE, 1867-76.

The following table shows the total value of the trade between the United Kingdom and France in each of the last ten years :—

Years.	Imports from France.		Exports to France.			
	Merchan- dise.	Bullion and Specie.	Merchandise.		Total	Bullion and Specie.
			British Produce.	Foreign and Colonial Produce.		
	£	£	£	£	£	£
1867 -	33,734,000	1,388,000	12,121,000	10,901,000	23,022,000	8,224,000
1868 -	33,896,000	1,325,000	10,652,000	15,861,000	23,513,000	9,011,000
1869 -	33,527,000	2,487,000	11,438,000	11,838,000	23,276,000	7,611,000
1870 -	37,607,000	1,527,000	11,643,000	10,339,000	21,982,000	4,064,000
1871 -	39,848,000	4,799,000	18,205,000	15,182,000	33,387,000	2,809,000
1872 -	41,808,000	3,040,000	17,288,000	11,023,000	28,311,000	1,911,000
1873 -	42,339,000	2,851,000	17,291,000	12,904,000	30,195,000	4,196,000
1874 -	42,518,000	1,912,000	16,370,000	13,018,000	29,388,000	6,755,000
1875 -	46,720,000	3,415,000	15,357,000	11,835,000	27,292,000	7,701,000
1876 -	46,304,000	2,767,000	16,085,000	12,914,000	28,999,000	6,021,000

The total value of the trade between the United Kingdom and the French colonial possessions during the same period was :—

Years.	Imports therefrom.	Exports thereto.	
		British Products.	Foreign and Colonial Produce.
	£	£	£
1867 - -	56,130	60,566	11,553
1868 - -	109,673	51,230	3,121
1869 - -	134,345	56,543	6,265
1870 - -	355,585	168,617	6,574
1871 - -	509,370	172,569	4,389
1872 - -	425,356	133,575	10,406
1873 - -	501,231	130,197	5,189
1874 - -	703,660	129,276	8,481
1875 - -	693,463	336,404	36,270
1876 - -	663,310	390,317	74,997

The value of the direct imports into France from extra-European British Possessions in each year from 1872 to 1876, is shown in the table below :—

Possessions.	1872.	1873.	1874.	1875.	1876.
	£	£	£	£	£
India - - -	4,563,000	3,532,000	4,648,000	5,960,000	6,200,000
British America - -	216,000	144,000	238,000	156,000	240,000
" Africa - -	652,000	788,000	316,000	232,000	232,000
Australia - - -	120,000	52,000	24,000	—	12,000
Total - - -	5,553,000	4,516,000	5,216,000	6,368,000	6,684,000

204 TRADE BETWEEN THE UNITED KINGDOM AND FRANCE.

The Quantities and Value of the principal articles of Merchandise imported into the United Kingdom from France, in each of the years 1867 and 1876, are given in the next table.

Principal Articles.	1867.		1876.	
	Quantities.	Value.	Quantities.	Value.
Animals, oxen and bulls - number	14,968	299,046	4,493	133,490
" cow and calves - "	1,538	16,093	66	1,067
" sheep and lambs - "	5,631	12,468	977	3,916
" swine and hogs - "	7,665	23,225	19,999	70,149
Asphaltum - tons	2,124	23,364	3,826	13,425
Books - cwts.	3,857	49,245	3,799	44,919
Brass and bronze, manufactures of - "	4,744	80,451	3,851	54,445
Butter - "	450,698	2,265,147	622,498	3,782,405
Buttons and studs, not of metal - value	—	52,026	—	133,492
Chemical manufactures and products - "	—	144,067	—	236,500
China ware, porcelain, and earthen-ware - cwts.	7,938	96,954	98,403	173,300
Clocks - number	83,861	193,136	101,031	261,933
Corks, manufactured - lbs.	1,487,513	77,522	3,174,431	267,022
Corn, wheat - cwts.	597,405	412,504	292,050	158,624
" barley - "	705,111	384,775	1,643,070	750,439
" oats - "	534	237	12,564	5,407
" peas and beans - "	130,750	60,469	150,295	70,437
" maize, or Indian corn - "	1,000,624	445,874	567	323
" other kinds of corn and grain - "	347,773	141,690	68,715	25,181
" wheatmeal and flour - "	1,234,742	1,198,339	1,069,400	838,577
Cotton, raw - "	19,544	113,763	91,638	266,866
Cotton yarn - lbs.	1,035,976	27,526	77,904	7,053
Cotton manufactures - value	—	653,397	—	615,991
Eggs - great 100	3,004,361	889,653	4,187,790	1,864,135
Feathers, ornamental - lbs.	48,069	60,515	141,945	263,670
Fish - cwts.	48,754	124,507	98,633	313,650
Flax - "	18,591	49,511	8,535	12,398
Flowers, artificial - value	—	301,544	—	490,397
Fruit—plums, prunelloses, and prunes - cwts.	20,916	54,460	23,570	42,248
Fruit, raw - bushels	557,259	179,691	440,760	266,276
Glass, plate - cwts.	25,988	138,627	14,598	91,316
" flint - "	22,501	86,070	12,026	19,623
" manufactures, unenumerated - value	—	40,184	—	190,570
Hair, cow, ox, bull, or elk - cwts.	21,281	112,335	23,024	81,580
Hats or bonnets of felt - number	147,176	44,154	311,653	61,490
Hides, not tanned - cwts.	39,379	61,944	26,866	38,350
" tanned, tawed, curried, or dressed - lbs.	2,670,020	237,336	2,727,190	313,243
Hops - cwts.	77,391	452,312	2,021	9,718
Horses - number	291	11,019	10,162	441,061
Iron and steel, manufactures of, unenumerated - value	—	92,498	—	105,596
Jute yarn, and waste of - lbs.	4,990,468	111,968	1,617,514	59,691
Lace - value	—	112,598	—	429,091
Leather manufactures, gloves - pairs	10,053,544	1,149,465	13,012,800	1,380,384
" " boots and shoes - value	239,693	54,272	907,584	213,793
" " unenumerated - value	—	37,078	—	165,686
Linen yarn - lbs.	25,885	2,347	18,943	1,365
" manufactures - value	—	40,248	—	94,640
Madder - cwts.	96,147	228,550	10,567	22,707
" root - "	4,336	14,284	3,663	9,099
" pers-nance - "	32,284	211,483	7,174	47,391
Musical instruments - value	—	192,343	—	232,733
Oil, olive - tuns	598	35,440	118	6,145
" seed - "	5,420	216,578	5,728	196,263
" turpentine - cwts.	53,425	14,423	1,933	2,279
Oil-seed cake - tons	45,563	239,428	24,638	172,960
Paper hangings - cwts.	5,655	23,751	9,207	64,574
" of other sorts (including pasteboard) - value	—	77,397	—	172,454
Pork, salted or fresh - cwts.	8,419	21,256	7,335	20,327
Potatoes - "	1,051,563	289,400	2,320,059	631,157
Poultry and game (including rabbits) - value	—	48,626	—	92,417

Principal Articles.	1867.		1876.	
	Quantities.	Value.	Quantities.	Value.
		£		£
Rags and other materials for making paper - - - tons	1,768	34,456	3,099	43,175
Rosin - - - - - cwts.	209,714	110,145	13,851	6,738
Seeds, clover and grass - - - value	121,327	304,438	158,627	293,954
of other sorts - - - value	-	103,783	-	17,048
Silk, raw - - - - - lbs.	1,882,358	2,658,468	242,706	267,022
waste, knubs, and husks - cwts.	8,186	183,921	9,333	130,914
thrown - - - - - lbs.	179,098	402,817	144,660	177,245
manufactures, stuffs and ribbons - value	-	6,175,297	-	7,525,180
plush for making hats - - -	-	79,440	-	51,468
unenumerated - - - - -	-	764,727	-	1,568,868
Skins and furs of all sorts - number	628,223	62,741	-	223,289
Spirits, brandy - - - proof gallons	4,773,380	1,365,612	7,894,733	2,595,895
Sugar, refined, and candy - - cwts.	344,041	551,167	1,772,113	2,009,924
unrefined - - - - -	489,859	530,561	698,201	707,989
Tallow and stearine - - - - -	8,467	20,645	10,218	26,305
Toys - - - - - value	-	36,903	-	94,564
Vegetables - - - - -	-	50,120	-	92,637
Watches - - - - -	-	178,040	-	27,618
Wine - - - - - gallons	3,771,301	1,497,917	7,062,635	2,905,489
Wool, sheep and lambs - - - lbs.	1,368,289	177,181	1,676,587	98,187
Woollen manufactures - - - value	-	1,511,177	-	3,522,144
Woollen rags - - - - - tons	2,287	59,887	7,896	138,170
All other articles - - - - - value	-	8,938,619	-	5,408,470
Total - - - - -	-	33,784,893	-	45,304,854

The following Statement shows the Quantities and Value of the principal Articles of British Produce Exported from the United Kingdom to France in each of the years 1867 and 1876.

Principal Articles.	1867.		1876.	
	Quantities.	Value.	Quantities.	Value.
		£		£
Alkali - - - - - cwts.	122,465	44,686	193,746	30,512
Animals, horses - - - - - number	2,203	73,324	1,223	74,107
Apparel and haberdashery - value	-	88,154	-	84,469
Arms, ammunition, and military stores :				
Fire-arms (small) - - - number	29,882	35,705	3,706	6,591
Gunpowder - - - - - lbs.	7,415	114	21,890	341
Of all other kinds - - - value	-	10,513	-	20,680
Beer and ale - - - - - barrels	13,704	44,880	11,501	39,731
Biscuit and bread - - - - - cwts.	4,338	12,745	19,233	72,100
Books, printed - - - - -	4,168	43,535	2,513	33,473
Cacoutchouc manufactures - - value	-	123,144	-	125,930
Cement - - - - - cwts.	642,373	76,535	270,196	33,338
Chemical products or preparations value	-	146,533	-	234,676
Coals, cinders, and fuel - - - tons	2,010,103	945,396	3,250,564	1,604,716
Coal, products of, &c., including naphtha, paraffine and oil there-of, and petroleum - - - value	-	149,903	-	208,332
Corn, wheat - - - - - cwts.	311,634	231,476	215,521	113,073
oats - - - - -	810,919	140,744	163,553	66,200
wheatmeal or flour - - -	1,543	1,481	30	27
Cotton yarn - - - - - lbs.	5,115,089	581,765	7,668,105	564,255
Cottons, entered by the yard - yards	41,147,794	968,020	88,754,446	1,630,178
" " at value - - - value	-	137,521	-	254,540
Drugs and medicinal preparations - -	-	23,575	-	11,543
Earthen and china ware - - -	-	49,434	-	72,305
Fish of all sorts - - - - -	-	111,292	-	91,468
Hardware and cutlery, unenumerated - - - - -	-	154,891	-	139,968
Leather, wrought and unwrought - -	-	71,073	-	233,687
Linen yarn - - - - - lbs.	3,284,277	277,348	1,326,375	165,202
Linen, entered by the yard - yards	4,978,453	250,671	10,857,934	413,530
" " at value - - - value	-	11,193	-	30,536

206 TRADE BETWEEN THE UNITED KINGDOM AND FRANCE.

Principal Articles.	1867.		1876.	
	Quantities.	Value.	Quantities.	Value.
Machinery, steam engines - - -	—	£ 58,865	—	£ 33,553
“ all other sorts - - -	—	447,454	—	634,038
Manures - - -	—	36,042	—	237,632
Metals, iron, wrought and un-				
wrought - - - tons	124,908	746,068	114,040	831,198
“ copper, wrought and un-				
wrought - - - cwts.	79,634	318,834	112,237	464,545
“ lead, pig, pipe, and sheet	2,259	44,397	1,792	36,644
tin, unwrought - - - cwts.	37,718	124,068	25,853	100,148
Oil, seed - - - gallons	783,911	117,704	1,237,566	126,192
Painters' colours and materials - value	—	41,286	—	94,465
Provisions, unenumerated - - -	—	77,101	—	126,235
Silk, thrown, twist, or yarn - - -	—	169,238	—	537,696
“ manufactures - - -	—	134,572	—	416,933
Telegraphic wire and apparatus - - -	—	816	—	1,010
Wool, sheep and lambs - - - lbs.	4,194,764	359,637	1,589,444	130,803
Woollen and worsted yarn - - -	4,184,454	528,613	1,986,906	315,568
Woollens, entered by the yard - yards	27,139,130	3,036,753	50,079,405	3,160,129
“ at value - - - value	—	76,875	—	169,401
All other articles - - -	—	1,004,606	—	2,308,163
Total - - -	—	12,121,010	—	16,085,615

The chief articles of Foreign and Colonial Produce exported from the United Kingdom to France are,—Sheep and lamb's wool; raw silk; raw cotton; copper, unwrought, part wrought, and old copper; jute; coffee; skins and furs of all sorts; indigo; Peruvian bark; silk manufactures; and ornamental feathers.

CATALOGUE OF GENERAL MACHINERY, PARIS, 1878.

BRITISH SECTION.

INTRODUCTION.

JUDGING by the manifest eagerness which has been evinced to obtain space at the French International Exhibition of 1878, more especially in the machinery section, we are warranted in assuming that the deepest interest is taken by the nation generally in its ultimate success. To the English as a manufacturing people the machinery question, in all its bearings before the world, is of the most vital importance. Our annual production of machinery is now so enormous as to determine in a great measure the means of obtaining a livelihood for a large proportion of the population. Hence the anxiety which has been manifested that we should produce a good impression by the character of our productions, and the keen desire that we may hold our own in a friendly rivalry with the other competing nations.

In drawing attention to the General Machinery Catalogue, the Royal Commission, knowing the great efforts which have been made by individual firms, much desire, both for the advantage of exhibitors as well as for the national interest generally, to reinforce the necessarily brief information which the Catalogue affords. But—owing to the great paucity of statistical information, which can be relied on, concerning the annual production of the manufactories of the United Kingdom, its value, the numbers of workmen engaged thereon, and its ultimate destination, and owing also to the somewhat insufficient replies received from exhibitors, in reference to the forthcoming display—the introductory remarks to the Machinery Catalogue will necessarily have to be of a more general nature than was originally contemplated.

To cultivate the habit of examining Machinery from the intellectual point of view, rather than from the stand-point of its material fabrication, will greatly add to the interest which the intelligent non-professional visitor will derive from the contents of the Machinery Hall at an International Exhibition. To the more limited class of visitors, those who are experts in mechanical questions or who are chiefly interested in the commercial aspect of the subject, an entirely different order of considerations naturally suggests itself for inquiry. Other motives of a technological nature step in, and secure the most earnest attention voluntarily, as a mere matter of business. Such experts

seize, each one for himself, upon the particular class of machines or other objects in which they are severally more especially interested; and for them a varied store of printed information is usually provided by the exhibitors. Such experts, however, constitute but a small minority of the interested crowds who throng the passages of an exhibition. There is comparatively little done to aid the great majority of visitors in appreciating the wonderful things that are to be seen in the section set apart for the display of machinery. It consequently seems, to many, a hopeless task to try to examine and unravel the apparently intricate labyrinth of mechanism, and still more hopeless to endeavour to comprehend its aim or the mechanical functions and contrivances that are employed to accomplish the object. As a general rule, the leading features of machinery may be readily understood; but for some reason the difficulty of understanding them is much overrated. If the examination is approached in a systematic manner a machine will soon appear very simple, at least in so far as its leading features are concerned, and the more technical details of the mechanism are not essential to the ordinary amateur.

The first thing to know is the object which the machine is intended to accomplish. This is a definite point. It may be for making shoes for horses, for knitting a stocking, for carving a bust, for printing a newspaper, or for any other of the thousand purposes to which machinery has been applied. Having clearly realised this primary object of the machine, the next point is to understand the natural laws or principles, which have been made available by man to accomplish the particular objects. In almost every case this can be told in a few words, and is as a rule so simple that anyone of ordinary intelligence can understand it without difficulty.

When the first and second points have been comprehended, the third point to know is the particular sort of mechanism that has been resorted to, or may have been contrived by the inventor himself, in order to carry out or apply the principle. This mechanism may at first sight appear to be slightly complicated, but it is much more likely to be of a more familiar character, and therefore to be more easily understood. Our aim should be to master the immediate working mechanism, as, generally, there are a number of moving parts not essential in the strict sense of the word, besides a variety of structural parts that only contribute indirectly to the ultimate result. Hence it is, that, as a rule, the vital mechanism, the essential device or devices that are employed to carry out the principle, when divested of accessories, will be found extremely simple; and when the three points, the object, the natural principle, and the mechanism, are thus brought together in the mind and understood, the pleasure derived from the inspection of the machine will be most satisfactory to the eager inquirer.

In the examination of machinery, after the foregoing points have been thoroughly realized, there arises a fourth point for consideration, namely, the combination of a series of distinct machines into a systematic whole, for the carrying out of some

great manufacturing operation. Even the principle of grouping machines will be found simple when it is examined in detail.

Let us select the cotton manufacture as an illustration, because, firstly, the machinery of that important branch of industry is probably more extensively displayed at Paris than that of any other of the textile manufactures, at least in so far as it relates to the British section, and also because the machinery used in cotton mills is perhaps the most perfect development of the manufacturing system. This machinery has been the subject of more improvements and patents, and is the result of more hard thinking than any other that can be named. It is a branch of industry upon which the utmost efforts of man have been expended, and for which service man has fully earned and obtained his reward; and the result of his work, when considered as a whole, has been of inestimable value to countless millions of the human race. The raw cotton upon its arrival in England, is very different in its characteristics from the fleecy web that we purchase from the apothecary, or which is used by the jeweller to protect his delicate wares. In order to facilitate stowage, and for the convenience of all who are concerned in its conveyance, the cotton wool is compressed excessively in the country where it is grown, in order to reduce the bulk. Consequently, it arrives at the manufacturing locality in the semi-clotted condition of hard lumpy tufts or masses which have become a good deal interlaced, and with the fibre in no sort of order for being spun into yarn. These hard masses of cotton have therefore to be opened out, cleaned, and made loose and fleecy, as a preliminary step. In past times this was accomplished by women beating it with willow wands upon an open or perforated sort of table, whereby the cotton was made soft; any remaining seeds were detached, and the dust contained in the wool eliminated, the dust and seeds passing through the table. In the modern cotton manufacture the foregoing and all other operations are done by machinery. The cotton passes first to a connected series of four distinct classes of machines which are employed at this early stage to beat, tussle, and spread the soft fleecy wool. The last machine of the class not only spreads out the soft wool into a long web, but deftly winds it up into a beautiful roll. At this stage of the manufacture there is no apparent approach to yarn, the fibre is not lying in any one particular direction, but crosses in all manner of ways, the position being due entirely to chance; the rolled web of wool, however, is in a soft and fleecy condition and ready for the second stage of the manufacture.

The object of the next class of machines is to lay the fibres, side by side, in a longitudinal direction, with the ultimate intention of twisting a given number of the parallel fibres into a continuous thread of yarn. The duty of the first machine is to comb the wool most carefully, of the second to combine two or more combings in the parallel direction, and of the third machine to elongate them gently. This doubling and drawing out is repeated a number of times until the wool is in the required condition.

The mechanism employed for these several processes is the well-known card, a sort of steel wire comb made with fine teeth, mounted on a drum, which revolves at high velocity and is almost in contact with stationary or revolving cards, while the web of wool, although held fast in one sense by a pair of rollers, is at the same time gradually advanced to the carding action of the above combination, and is delivered in the condition of a soft fleecy cord or filament, which has distinctive evidence of constructive skill in its general character; but the respective fibres are as yet only approximately parallel to each other. This soft cord of wool is united with a number of other cords and passes to the drawing out machines, whose chief feature consists of consecutive pairs of rollers moving at different surface velocities, the second pair going faster than the first, and the third pair faster than the second; consequently, when the soft cotton cord is passed through them, it is necessarily extended by most gentle means. A number of such elongated cords laid parallel with each other are passed through other and similar sets of drawing rollers, a process which is again and again repeated until at length they become a fine beautiful cord of wool, with the fibre nearly side by side, yet without any twist to give coherence or strength.

Then comes a third class of machines whose object is to draw out still further the untwisted cord or filament until it becomes of small diameter or approximates towards the substance of the ultimate yarn. This cord, being so small in diameter, requires a certain amount of twist to give it the necessary strength to carry its own weight. The effect of twisting is to entwine one fibre with another, thus introducing the element of friction and consequent strength. This new element of twist and strength is the great feature to note. It acts as the key because it serves to interlock the fibres into each other, giving a tensional strength that is appreciable to the sense of feeling. The mechanism employed in the third class of machines for drawing out the cord to a finer filament is similar to that of the second class, namely, successive pairs of rollers moving at different velocities, but with the addition of a revolving spindle to give the twist. In this third class of machines some most ingenious pieces of mechanism are to be found. In the "bobbin and fly frame," as it is termed, there has been embodied within itself the faculty of adapting all its working arrangements to an ever changing condition of circumstances. The machine has the power of continually varying its rate of motion to suit the altered dimensions of the reels of rove or filament, and, when the reels are quite full, it stops of its own accord.

When the cotton has passed through the third class it is still susceptible of being further extended before receiving the final twist into the state of yarn. This operation is accomplished by the self-acting mule, which, as a piece of mechanism, is the greatest triumph of the whole manufacture. In this fourth order of machine the rove from the "bobbin and fly frame" again passes through a series of drawing rollers, and is reduced to the substance of the required thread of yarn, being gently held by the revolving spindle, which spins it round and round, and thus gives

it the last constitutional change before it passes to the power-loom to be woven into calico.

The question of the best mode of spinning yarn has received much attention during the past century, and many different machines have been invented in order to deal more and more tenderly with the untwisted yarn. The self-acting mule, however, still seems to hold its old place as the crowning machine of the textile manufacture. It has come down by hereditary descent from Hargreaves' jenny and Crompton's mule, but hundreds of earnest minds have exhausted their energies over its gradual improvement. As an automatic machine, its first great designer was the late Richard Roberts, whose mark is still deeply impressed on many of its leading features.

This important machine, however, likewise embraces the embodied ideas of many other deep thinkers, whose united efforts have brought it to its present state, a condition of marvellous mechanical excellence. Lancashire, which has been the headquarters for the development of this remarkable piece of mechanism, has sent a fine collection of the most modern specimens to the great gathering at Paris, and one exhibitor alone shows a complete set of machines, such as above described, which will be seen in active operation, commencing with the raw cotton as it arrives in Europe and delivering it in woven calico ready for domestic use.

Let us select one other example, as an illustration of modern machinery of a different nature, which approaches in character to almost an ethical standard, and which always occupies an important place at International Exhibitions, namely, that of machine tools. This is a class of machinery which originated in Great Britain, and in the manufacture of which we have taken and hitherto maintained the lead, and our types of machines have been copied more or less by the greater number of competing nations. This department of machinery is of the highest consequence, because it lies at the root of all other kinds of machinery construction, hence the reason why machine tools attract so much attention from the expert class of visitors at an International Exhibition.

Of late years a great change has come over the character of general machinery in regard to soundness and truth in the relationship of all the parts composing its structure. And although to the superficial observer this great change may not be apparent, still it affects the conduct of the Machine through all its actions, especially in regard to its endurance, and hence its appreciation by all who understand the subject. Where the machine-tool system of construction has been introduced in its entirety, as it has been in some of the larger manufacturing houses of England, the several parts of the structural skeleton are so planed or otherwise shaped by accurate machine tools that, when the several parts are brought face to face for the first time, they fit each other exactly, without adjustment.

In the construction of certain kinds of machinery, such as steam-engines, accuracy in the machine tools is the cardinal virtue,

whenever the aim to a high standard is paramount. Consequently, the employment of machine tools of the highest class and most correct workmanship is absolutely necessary, in order that the same good qualities may in some measure be transmitted to the work proceeding from them. Tools are essentially machines for transferring their own qualities to other things produced by their means.

Another question which comes in for a large share of discussion among experts at International Exhibitions is in regard to the proper strength of machinery structures, and the correct proportions to be given in the disposal of the material throughout. Of late years, a great advance has been made in the extended knowledge of the principles here involved, so that we rarely see the wide departures from natural laws which were formerly so prevalent, more especially among some of our foreign competitors. Constructors now recognise the truth that correct form is derived from Nature, and consists in giving to each part of the structure the exact proportion of substance that will enable it to fulfil its respective share of the duty imposed; and in placing or disposing of each portion of the materials under the most favourable conditions of which the circumstances will admit. When, however, a constructor obtains the requisite strength by heaping on material, regardless of the natural principle, his productions are clumsy and at the same time expensive.

Turning to the British section of the Official Machinery Catalogue, it will be seen that England is fairly well represented in regard to the machine tool class of mechanism in each of the several branches, metal, wood, and stone. It seems unnecessary to single out any special exhibit for distinction. Planing machines, lathes, shaping machines, drills, &c. are exhibited by most of the leading houses; steam and other hammers are also largely shown, and some special machinery, in which hydraulic power is utilized, will well repay a careful examination.

In machine tools for working wood, the British division contains several large collections from the leading firms. This is an important branch of manufacture and is being rapidly developed, year by year approaching more closely to the height of perfection.

Stone dressing machinery should also be carefully examined as it is becoming more and more necessary owing to the difficulty experienced in controlling the skilled labour which is required to prepare the expensive stones for building and other purposes; and it is only at Exhibitions that the general mechanician can see the working of stones by machinery. In various existing machines the action of the stonemason is nearly copied, and in some Italian machines it is literally imitated, even to the hammer and chisel. But the greater number made in England are founded on a system of extreme pressure combined with slow motion. In the granite and stone sawing machines, in which the teeth are formed of diamonds, the saws are driven at high velocity, and a deluge of water is employed to keep down the temperature.

In regard to machine tools for shaping stones, the supply is still limited. Of those for rock-boring, with diamonds as the detruing instruments, several are shown at Paris; but the most interesting shaping machinery in the British division will probably be that for shaping stones, either to flat surfaces or into irregular forms, as in the production of columns by turning, as in a lathe. Machines for working granite are shown in actual operation.

The largest and by far the most complete exhibition of machinery in the British division is in connexion with the several manufactures of textile fabrics. Both Lancashire and Yorkshire are well represented, and to show the extent of this trade it may be mentioned that one firm of machine makers alone employs upwards of ten thousand men.

This section contains several looms of the most advanced types, arranged for weaving intricate and difficult patterns, the peculiarities of which are referred to in the Official Catalogue.

On looking at the Official Catalogue, the words "stop motions" or "electric stop motions" will be seen, but those words convey to casual observers no idea of that which is thereby intended to be conveyed. On careful examination it will be found that some machines have almost authority to control the attendants who wait upon them.

In one case, if the correct and required number of plies are not passing inwards so as to furnish the necessary substance to the yarn in process of manufacture, then the machine stops itself, or if on the delivering side of the machine any thread is broken the same effect is produced; and even if the cans which hold the cotton are full to overflowing it also stops until those objectionable conditions are rectified. This apparatus instead of being complicated is extremely simple, consisting of small electro-magnetic apparatus and the usual copper wire.

As will be seen in the Official Catalogue, the display of different classes of steam engines in the British section is numerous and varied in its characteristics. The largest and most prominent engine in the British department is that which gives motion to the greater proportion of the mechanism in that section. It is on the horizontal compound system suitable for working up to 300 indicated horse-power, with a boiler pressure of five atmospheres, the high-pressure cylinder having a bore of 20 inches, and the low pressure a bore of 34 inches, with a stroke of 3' 0". This engine is fitted with valves on the plain flat surface system, so arranged as to be almost frictionless, and having an instantaneous cut-off motion attached, regulated directly by the governor without the intervention of any throttle valve; this admits the full boiler pressure upon the piston. It will be noticed that the steam passages between the face of the valves and the cylinders and between one cylinder and the other are reduced to a minimum; this is a point of great importance.

This engine drives, by means of one strap, the whole of the main line shafts and various countershafts in the British Section. It is well adapted for either strap or rope driving, owing to the

perfect balance of its various working parts, and the great regularity of the turning.

The whole of the steam required in the British section is provided by three "Galloway" boilers, each being 28 feet long by 7 feet diameter, containing two internal flues 2 feet 9 inches diameter, going into one oval flue which contains 33 "Galloway" tubes.

A model of this description of boiler is exhibited in the building, on a stand adjoining the engines above referred to.

It may here be mentioned, incidentally, that the general practice in the largest manufacturing establishments in England is to work with a boiler pressure of about 80 lbs. to the square inch, and such boilers and engines as above mentioned are ordinarily working at that pressure with a consumption of coal of about 2 lbs. per indicated horse-power per hour. An impression was prevalent abroad some few years ago that the higher the pressure the greater the economy, and boilers were made for working at 150 to 200 lbs. to the square inch. It has, however, been found from experience that this increase of pressure has many drawbacks, which more than counterbalance the small theoretical advantages it possesses.

England is the birthplace of the locomotive engine. Judging from the Official Catalogue, the British machinery section at Paris gives fair promise of a good representation in respect to locomotive engines of various sorts. The list includes engines designed for both fast passenger and goods traffic, and also small engines constructed with narrow gauge for special purposes. There is also a locomotive steam tram engine said to be adapted for working with little noise. Lastly, there is a steam tram car of improved construction. Still, it will probably be found that the mark of George Stephenson, which was impressed so deeply upon the earlier locomotive engine, is not to be readily effaced by those who have come after him, and who are now endeavouring to meet the requirements of new necessities for another generation.

In the British section there is likewise found one of the calorific or hot air engines, which holds out the hope that some of the more formidable practical difficulties which have hitherto prevented these engines from becoming generally useful have at length been overcome; hence it is likely that this engine will be an object of the utmost interest to engineers.

There is, further, a fair display of hydraulic machinery, which for many purposes possesses important practical advantages over any other arrangement. This is a department which will repay careful examination.

Several firms exhibit hoists, lifts, and elevators. It is a kind of machinery which is now extensively employed in raising men and materials from one elevation to another. One important point to be carefully examined in connexion with such apparatus is their relative safety. In past times many accidents occurred through them, until public opinion compelled close attention to be given to this most essential condition of perfect security. There are some of them now at work so absolutely safe and so well

prepared for every possible contingency that an accident seems impossible.

These devices take many directions; some are mechanical and act spasmodically on the instant of fracture of the lifting gear, whilst some are precautionary; but all have the same object in view.

An Indicating Assay Balance, worked by water power to ensure regularity in speed, is worthy of notice. In this balance the counterpoise is a constant weight. At the other end of the beam are divisional weights, in their sum equal to the weight of the fixed counterpoise. When a load is to be weighed, divisional weights nearly equivalent to it are removed; the sum of these added to the indication on a dial gives the weight of the load. The indication on the dial is given by means of a pointer, and represents the measurement of the arc of oscillation of the beam and the weight to which the extent of the oscillation is due.

A machine for coin and coin-blank weighing and classifying is also exhibited. The coins are placed in a hopper or reservoir and they pass, one by one, on to the weighing place. The beam, actuated when a light coin is being weighed, makes an electrical contact, and through an electro-magnet a classifying distributor is acted upon to direct the coin into the proper receiver; the heavy coins pass on to the receiver prepared for them.

Many other productions, of equal interest to those which have been referred to in the foregoing remarks, might be mentioned if space and opportunity permitted.

Both machinery and materials are displayed, which, upon careful examination, will be found to illustrate many different pages of the interesting book of nature and art, and will likewise show, in some measure, the wide range of application which has already been given to natural law in connexion with machinery construction and the mechanical arts.

Perhaps it is not in accordance with the popular notion to say that the machinery of man's devising is thus under the dominion of natural law; such is the case, however, and a full recognition of the fact will explain many of the phenomena which are to be seen in connexion therewith. From long experience, men can readily recognise that anything left to itself will fall to the ground, and that, if the law of gravitation is disregarded, a penalty consequently follows; so, with machinery, the natural laws, although under control, are paramount, and any transgression of these laws, even through ignorance, cannot escape the consequences which naturally arise therefrom. In machinery, there is no such condition as that which is termed "chance"; the same circumstances will always produce the same result.

Even in the matter of fracture or derangement, which men are disposed to ascribe to an evil Genius, the cause can be traced to natural law. In a figurative sense, the Genius may be supposed to wait among the molecules of a structure and, if it finds that the elasticity and ultimate strength of the weakest point has been overstrained by man's imprudence, then the irrevocable sentence

goes forth. The machinery Genius is just and impartial in all its judgments, and never makes a mistake through ignorance of the facts involved, even in the case of a complicated structure.

During our visit to Paris, it behoves all earnest and intelligent men to bear in mind the serious depression of trade which now exists all over the world, and which affects Great Britain especially in her most vital interests. We seem to require a new point of departure by the addition of new classes of articles to manufacture of those kinds which we are best fitted to contribute our share, so that as one class of industry closes, another door may be opened. The present crisis in trade shows that, even with all our mechanical advantages, commercial prosperity is at the best but a perishable commodity, for we seem to be subject to external influences which seriously affect the warp and woof of the entire texture of the working world of applied mechanics; and the intricate web of commercial reciprocities is a difficult task to unravel and apparently lies beyond our control.

This great display of textile and other machinery, made by Great Britain at the Paris Exhibition, cannot fail to impress the minds of all who take the trouble to examine it in detail; and—when we bear in mind that it is the fruit of long continued self-denying efforts of many thousands of clever inventors, whose life-work, in many instances, has terminated in sad disappointment, due to want of practical success, and, in the larger number of cases, offering only a poor reward to the immediate contriver—we cannot help feeling that it unfolds much of the romance of modern life. Still here it is, the grand epitome of a century's hard mental work, with the chaff eliminated from the wheat, a rich profusion of art and nature, and certainly a great sight, calculated to interest the men and women of all nations, our fellow workers over the face of earth.

JOHN ANDERSON.

SHORT NOTES ON BRITISH AGRICULTURAL MACHINERY, PARIS, 1878.

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SUPERINTENDENT OF AGRICULTURAL MACHINERY, GREAT EXHIBITIONS,

LONDON, 1851 AND 1862, AND PARIS, 1855 AND 1867, AND OF LIVE

STOCK AND AGRICULTURAL MACHINERY, PHILADELPHIA, 1876.

SPECIAL COMMISSIONER FOR THE UNITED KINGDOM FOR AGRICULTURE,
PARIS, 1867, &c. &c. &c.

INTRODUCTORY REMARKS.

In the Official Catalogue the space assigned to each exhibitor is too limited to admit of a detailed description of the machines sent to the Paris Universal Exhibition of 1878. There can, however, be no doubt that amongst the vast multitudes visiting it, there will be many thousands who do not possess any special knowledge of the contents of the various sections into which it is divided.

A few prefatory remarks may therefore not be altogether uninteresting to those who may wish to understand the British agricultural machinery. It must, however, be understood that the following observations are merely intended for general visitors. Those who are already conversant with implements of husbandry, or who may require detailed explanation of the uses and construction of individual machines, will, no doubt, get full information from the descriptive catalogues issued by the exhibitors, or verbally from the representatives in charge of the respective stands, whilst visitors desirous of becoming acquainted with the minutæ of construction, either as regards scientific principles, or the registration of dynamometrical and mathematical results obtained from special and elaborate trials, are referred to the annual reports published during a long series of years in the "Journal of the Royal Agricultural Society of England."*

* NOTE.—It may be stated that British agricultural machinery has for many years been periodically tested by careful trials with costly dynamometers, &c.

The increase in the number of implements had some years back become so great that it was found necessary to classify them, so as to bring the trial of each variety once in seven years, whilst the improvement in others had been so great as to admit of their further trial being postponed indefinitely.

Agricultural machinery may be conveniently arranged under the following heads:—

I.—Implements and Machines for the Preparation of the Soil.

Such as drainage apparatus, tile machines, draining ploughs, &c. Ploughs, including wood, iron, swing, wheel, ridging, skim, paring, one way or turn wrest, double furrow subsoil ploughs and pulverizers. Steam ploughing and cultivating machines. Harrows (various). Chain harrows, &c. Rollers. Clod crushers. Scarifiers, &c.

II.—Implements and Machines for Sowing the Land and Cultivating Crops.

Such as drills, including general purpose drills, corn drills, turnip on the ridge and on the flat, drop drills, pressers, hand drills, seed barrows, &c. Dibbles. Manure distributors (dry and liquid). Water drills. Horse hoes (on flat and ridge). Turnip thinners. Hop cultivating machines, &c.

III.—Machines for Harvesting Crops.

Such as reaping machines (various). Sheaf-binding machines. Mowing machines. Haymaking or tedding machines. Loading machines. Horse rakes. Potato ploughs or lifters. Carts, waggons, &c.

IV.—Machines for preparing Crops for Market, and for food for Animals.

Such as steam engines (portable, fixed, and traction). Horse gears and intermediate motions. Thrashing machines (hand, horse, and steam), &c. Straw and hay elevators. Straw shakers. Barley hullers. Corn screens (rotary). Dressing or winnowing machines. Smut machine. Mills, grinding, crushing, and kibbling. Chaff cutters. Root cutters and pulpers. Oil-cake breakers. Gorse bruisers. Food steaming apparatus. Corn [drying apparatus.

V.—Miscellaneous.

Such as hand tools, straw weaving machines, cheese pressers, churns, &c. Hop kilns. Sack elevators, &c. &c.

I.—PREPARATION OF THE SOIL.

Drainage Machines.—The importance of thorough drainage of land cannot be over estimated; it is, in fact, the first step in successful cultivation. Excess of water, whether caused by springs or the stagnation of rain water, must be removed. Whilst in a wet state the land cannot be properly tilled, and frequently from this cause it is not ready for sowing at the proper season, the beneficial atmospheric influences are counteracted, the temperature of the soil is reduced, manuring loses much of its effect, and the roots of plants cannot perform their functions whilst

encased in a mass of soddened earth. By drainage the land is improved, crops which it would not otherwise have grown can be cultivated, the expenses of tillage are considerably lessened, and the health of live stock feeding on it is promoted. Even on land where the surface becomes "baked" the advantages of draining are felt, because by disintegration of the surface it allows the absorption of moisture from the atmosphere. It is unnecessary here to describe the different systems of drainage that have been in use from time to time. That now commonly adopted is by means of drain tiles or pipes of burnt clay made by the machine now to be described.

Drain-tile Machine.—There have been various forms of this implement, some working vertically and some horizontally. The general principles, however, have been similar.

Usually the clay, after having been pugged and screened to remove stones, &c., is placed in the box or closed trough, in which work pistons, forcing out the clay in a continuous length at each end of the machine alternately through dies. This pipe travels forward on a platform of rollers, &c. Whilst the clay is being forced out at one end of the trough the other is filled ready for the reverse action.

Dies of different sizes and shapes can be fixed according to the description of tile to be made.

The continuous pipe is cut into portions of equal length by wires which are set in a frame at equal distances apart, thus forming the complete tiles or pipes ready for the kiln.

These machines are chiefly suitable for hand-power.

The clay can be screened by being passed through the machine, iron plates (with either circular or rectilinear orifices) being fixed at the mouth in place of the dies above alluded to. In a recent form of machine working from one end only, instead of the clay being forced by pistons, it is fed between two powerful rollers capable of adjustment; this saves much time in the preparation of the clay. Many machines now make bricks also; in consequence, however, of the additional weight of clay those worked by steam-power are most suitable for this purpose.

Draining-plough, &c.—Several forms of plough have been invented to accomplish drainage by first removing the top furrow, and by one operation taking out the lower spit.

The old "mole" plough was worked by a one-horse capstan fixed by a portable anchor dragging a chain, to which was attached a plough somewhat in the form of a subsoiler, but with a conical shaped mole. This evidently gave rise to the drain plough brought out shortly before the Great Exhibition of 1851, and it was regarded as one of the greatest agricultural novelties on that occasion.

The drain plough apparatus consisted of a capstan (worked by two or more horses moving in a circle) which hauled a strong plough, similar to a subsoiler, and which was so arranged as to insert a line of pipes strung upon a rope into the earth at the required depth. The wire rope being afterwards withdrawn a continuous drain was left, and subsequently there was an arrange-

ment to regulate the depth, so as to compensate for any inequalities in the surface, and thus secure a level drain.

The operation of forming drains and laying the tiles, however, is usually performed by hand labour, with specially constructed spades and tools, and the draining plough is now chiefly remarkable for having been the forerunner of one of the most important inventions of the present day, viz., apparatus for the cultivation of the soil by steam-power (hereafter described).

Ploughs.—These implements are too well known to require much description; they are constructed either of wood and iron combined, or solely of iron. The latter are now mostly in use. In the best ploughs many of the parts liable to wear are made of steel. Ordinary ploughs may be divided into swing ploughs and wheel ploughs.

The Swing-plough has no wheels, but as it were swings between the horses and the ploughman, and is solely under his control. It has therefore long handles and a short beam in order to increase his power over it; it is more useful in rocky or newly cultivated land than in that which is wet and sticky.

Some swing ploughs are capable of also being used with a wheel, and have various fittings suitable for different operations, such as adjustable breasts for forming either a whole compact furrow, or a broken one, as required; also with bodies for subsoiling, double breasted for laying the land in ridges, for opening water furrows, and with special pronged fittings for raising potatoes, &c.

Wheel Ploughs, i.e., having two wheels, are those now generally used, and have many advantages. All the operations performed by the swing plough can be accomplished by the wheel plough, but it is more of a self-acting machine. The two wheels forming the front carriage regulate the depth, and carry the weight which would otherwise swing upon the horses, the advantage being that a less experienced ploughman can work it.

Turn-revest or One-way Plough is an implement in use in certain districts of the country, and differs chiefly from an ordinary plough from its ability to lay the furrows all one way, commencing at one side of a field, and returning with the next furrow. The breast and share of the plough are turned over at the end of each furrow, so as to cause it to lay over the earth on either side of the plough alternately.

Some ploughs combine subsoiling. The subsoiler working the bottom of the furrow stirs it, and leaves it without the impress of the horses' treading. A subsoil pulverizer may also be adjusted in the same manner. Various fittings are also in use, such as small rotatory harrows attached to pulverize the soil and form a seed bed, &c.

There are also ploughs for leaving the furrow slice in a pulverized state, thus forming a seed bed, where sowing is to take place immediately after ploughing.

Subsoil Ploughs or Pulverizers.—*The subsoil Plough* is used to break up and render easily permeable by water the bottom of the furrow which in some soils is left by the plough compressed

and solid. The form of the subsoiler is, as regards the beam and handles, similar to an ordinary plough, but it has only one prong in place of the plough body. It is sometimes fitted with one wheel, near the head or fore end, and sometimes with another wheel at the rear, both travelling in the furrow. The power, however, required to work it is so great as to make it in most cases advisable to perform this operation by steam-power.

Double-furrow Ploughs have recently attracted much attention. Although known for many years they have only of late come into frequent use, which has no doubt been accelerated by the present scarcity of labour and the high price of horses, as one man with three horses (and in light land with even two horses) will plough as much land as could be done by two ploughs, two ploughmen, and four horses. There are also other advantages which secure the improved cultivation of the land.

The double plough is in the form of two ordinary ploughs, placed in a frame running on wheels and capable of being raised or lowered by the action of levers. On some descriptions of land the plough will run entirely on its wheels, lessening the friction. The furrow-horse only walks in every second furrow, thus saving half the land from the treading of his feet.

On hill sides one furrow can be taken going up hill and two coming down, three being thus done in one "bout" (outward and return journey) instead of two as by the single plough.

At the headlands the plough is raised for turning by the levers. The body can be removed and subsoil fittings substituted.

When tested by the dynamometer it was found that a saving of 25 per cent. was effected on the total work done by the double plough as compared with the single, probably owing to the plough being in a great degree suspended from the frame, thus reducing friction.

The most approved British ploughs lay the furrow alee, when turned over at an angle of 45° , quite unbroken and solid. This is effected by the extra length of the mould board. The object of this unbroken furrow slice is to expose an increased surface to atmospheric influence for a longer period. Other forms of ploughs are constructed by British makers to break up the soil and leave it in a state similar to spade husbandry.

Harrows.—These implements do not require a long description. They may be classed as follows:—Light, heavy, drag, chisel, and duck-foot pointed, and chain harrows. One of the chief objects to be secured is that each point or tine cuts a fresh track, so that all the land is worked. Some are jointed to suit uneven lands, &c.

The Chain Harrow is a series of links intertwined, and is useful in some soils for forming a fine tilth and for covering seeds, such as grass, clover, &c., also for working in manure on grass land; being flexible it works over inequalities of the surface.

Some have small discs working under the links, and others have a combination of links and harrow tines. These are useful on rougher lands than can be cultivated by the plain chain harrow.

Rollers differ very little in construction, except that some have the rolling cylinder made in two or more pieces, so as to turn without clogging or dragging the crop or the soil. The water-ballast roller is a most useful invention, as it serves either as a light or heavy roller by using it empty or by filling it with water.

Clod Crushers consist of a series of rings or discs working loosely on an axle, in some cases the alternate discs vary in size to prevent clogging. The outer or crushing surface in some is serrated, whilst in others it is fluted; the former break the clods effectually on strong soils, whilst the fluted are very suitable for lighter land. There is another purpose for which clod crushers are most useful, viz., pressing young wheat in the spring, so as to consolidate the roots which may have been drawn out of the ground by frost, &c. Pressing the land also checks the wire-worm.

The Norwegian Clod Crusher, or harrow as it is usually called, consists of two or three axles on which numerous spiked wheels or stars rotate in opposite directions, thus crumbling the soil and producing a fine tilth, and leaving it very loose.

This implement is not, however, much in use, though it would possibly be very valuable for market gardening purposes on a large scale.

Cultivators, Drags, Scarifiers, and Broad-Shares.—The implements although made in great variety as regards details, are similar in principle and general construction. There is a frame carried on three wheels, with prongs projecting downwards into the earth and having an arrangement to regulate the depth, or to lift the prongs entirely out of the ground. The nature of the work performed is regulated by the form of the point, which in most cases is made moveable and varies from a narrow or projecting prong to broad-shares, whose aggregate width nearly covers the whole surface over which the implement passes. The broad-shares are used for paring stubbles, by which the weeds are exposed to the action of the sun and destroyed. When fitted with narrow points the implement is used as a grubber and stirs the land as required. It is most useful for spring cultivation, and is a great auxiliary on the farm.

Steam Cultivating Machinery.—The successful application of steam power to the cultivation of land being of comparatively recent date, a few particulars respecting it may be interesting. For many years the importance of applying steam power to ploughing had been felt, and several attempts had been made even before the Great Exhibition of 1851. Indeed, an engine with apparatus was exhibited in the building in Hyde Park. But it was not until after that period that the present system, which was no doubt suggested by the application of steam power to the draining plough, came into practical use. The advantages of cultivation by steam power are almost too manifest to require recapitulation. By its use the land can be cultivated

rapidly at the seasons of the year most suited to each operation of farming. This cannot be done by horse-power, as the land will not always bear the treading of horses; from the large amount of work performed by steam power in a given time loss of season can be avoided, and the land subjected to atmospheric influence for the requisite period. When the land requires to be stirred to a greater depth, and to be more thoroughly worked than would be possible by horses, the benefit of steam power is obvious. By this extra cultivation the benefits of drainage are increased; retentive soils become more porous, whilst a farmer employing steam is enabled to dispense with one-third to one half the number of his horses, thus saving considerably in keep, &c. A volume might be written on the details of its advantages, but even the general observer will understand the enormous value of steam, not only in the cultivation of the land, but also in the varied subsequent operations of agriculture.

The chief impediment to its general adoption is the great cost of the necessary tackle, but on large occupations it is an advantageous investment of capital, whilst the requirements of those who do not possess steam apparatus of their own are being met by companies and individuals who supply them on hire. The chief disadvantage of this, however, is that the farmer cannot always obtain the steam tackle at the precise period he may require it, and by having to wait his turn may lose some of the benefits which the fortunate possessor of a set can always secure.

Different systems have been tried, some with self-moving engines drawing a row of ordinary ploughs behind them, others working a rotating pronged cultivator or "digger" have been followed by other inventions, all of which have been abandoned in favour of those now in use, and which may be shortly described as follows:—

1st. *The Double Engine or direct pull System.*—Two traction engines, each fitted with a drum on which wire rope is wound, are placed on opposite sides of the field. Each engine works alternately winding the rope round the drum, hauling towards it the plough, cultivator, or other implement, whilst at the same time the rope is unwound from the drum of the other engine.

The direct pull is considered an advantage, as it does not require the intervention of anchors or pulleys, as in the "round-about" system (described hereafter).

The double-engine system has also the advantage of requiring a shorter length of wire rope than the roundabout, and as the rope is the part most liable to wear this is an important consideration.

There is no fixing of anchors, &c. as in other systems. The whole apparatus is easily moved to other fields by the traction engine without extraneous assistance. Large implements can be used, and as none of the apparatus has to be fixed, work can be commenced without loss of time.

It has been calculated that two engines each of 20 horse-power (nominal), each with apparatus, will perform as much work as would take 107 horses to accomplish in the same time.

2nd. *One Traction Engine and Anchor*.—This is a modification of the double-engine system, and consists of one traction engine, say 12 horse-power, fitted with two winding drums on the engine, and an anchor on the opposite side of the field. The engine and anchor both move so as to be always opposite each other. The forward movement of the anchor is effected by the same rope that draws the plough, &c.

3rd. *An ordinary portable or self-moving or Traction Engine with a detached Windlass* (commonly called the "*Roundabout*" system).—The windlass is worked either by a driving band or connecting shaft from the engine. The engine is made stationary at one corner of the plot of land to be cultivated. A wire rope is taken from each of the two drums in the windlass, one rope is passed round a snatch block at an opposite corner of the plot, and thence round a moving anchor or hand snatch block to the cultivating implement, to which the other rope also is attached. When the cultivating implement reaches the end of the furrow the action of the winding drum is reversed, and the return journey is made.

This system enables the small farmer to avail himself of his ordinary portable engine for cultivating his land.

In the two last systems small "rope porters," on wheels, are used at intervals to keep the rope off the ground and prevent its becoming worn by friction. Boys are in attendance on these porters to move them forward from time to time as the plough comes on fresh ground. In the first system the porters are used only when the land under cultivation is very uneven.

Various improvements have recently been made in anchors. Some are self-moving and not requiring manual labour, but are brought into the requisite position by being acted on by the rope from the engine.

On some windlasses and coiling drums there are ingenious contrivances for insuring that the rope shall be evenly coiled.

4th. *The flying rope System*.—In this system the implement is hauled between two moveable anchors, but these anchors contain also the windlasses, and motion is given to them by a light flying rope, which reaches the pulleys on these windlasses through the guidance of light pulleys fixed on stakes round the outer side of the field. The flying rope is made of Manilla hemp, is endless, and passes round a V-shaped groove in the fly-wheel of an ordinary portable or traction engine. It travels at the rate of 30 to 40 miles per hour, which is about $12\frac{1}{2}$ times the speed of the plough.

Space will not admit of any minute description of the various combinations and arrangements to accomplish all the above movements, and, indeed, any description, however long, would be comparatively unintelligible, without being illustrated by diagrams.

Anchors.—A grooved pulley or small snatch block is fixed on a frame, which is carried on four disc wheels with sharpened edges. These wheels cut into the ground and thus form a firm and secure

anchorage when pulled against laterally. The wire rope is passed round this pulley to the drum on the opposite side of the field. When the cultivating implement is drawn away from the drum the anchor remains fixed, but on the return journey the reversed action of the rope moves the anchor forward so as to keep it parallel with the engine.

In some cases two anchors are used on the opposite side to the engine, which then remains stationary.

The above are general descriptions of the systems of steam cultivation, but there are many modifications, especially in matters of detail.

Implements for Steam Cultivation.—Implements of almost all kinds are now specially constructed of extra size and strength for use by steam power. Various contrivances to facilitate their speedily turning at the land's end, and also automatic means for raising the machine during this operation, are employed.

The ploughs, however, ordinarily used are of peculiar construction, and are called "balance ploughs." They vary in the number of breasts from 2, 3, 4, 5, 6, 7, and 8, as circumstances may require.

The frame is V-shaped and is balanced on the axle of a pair of large wheels, and is fitted with double the number of ploughs which are to be worked, so that the half of them on one branch of the V operate on the outward journey and the other half on the return, thus turning the furrows one way. There are two seats for the ploughman, viz., one nearly at each end of the plough, and being at a considerable distance from the balancing points he, when seated, acts as a lever weight, so that on his shifting his place from one to the other his weight assists in depressing the end on which he sits, and in keeping it in position, also the peculiar manner in which the draft rope is attached draws the plough into the earth, and the tail rope being hung on the hind part of the plough still further contributes to its remaining in position. There is a steering apparatus enabling him to lay the furrow evenly, and also various means by which the width, depth, &c. of the work can be regulated. The ploughs are made of different forms, such as for extra deep ploughing, &c. For heavy work the number of furrows is proportionately lessened, and sometimes only one is made; in this case the land can be ploughed from 12 to 18 inches deep, and a subsoil tine will pulverise an additional 6 to 12 inches in depth, thus cultivating at one operation from 18 to 30 inches below the surface.

Cultivators worked by steam power are not made on the balance system, but are fixed in frames like the horse implement, and have peculiar arrangements to enable them to turn at the head land. The man does not leave his seat. He has control over the implement by a steering apparatus which acts instantaneously. Cultivators "smash" the soil, leaving it in such a rough state that it can be acted on by frost and the atmosphere generally; thus it becomes disintegrated and capable of being easily worked during subsequent operations.

There are also ditching machines for wide drains or irrigation, and these are useful in sugar cane and cotton plantations, &c.

Sub-soilers and grubbers, which work 2 ft. deep; reclamation ploughs, with peculiar disc fittings to lift the plough over large stones or other obstacles, &c.

"Discers" for cultivating newly reclaimed land without bringing the under soil to the surface; steam harrows of various forms; rollers; clod crushers; consolidators or pressers; drills, &c., and recently a form of reaping machine, hereafter described, has also been constructed to be propelled by steam.

II.—DRILL HUSBANDRY.

Many years back the seed was generally sown broad-cast over the land and afterwards brushed in with a bush harrow.

Drilling, that is sowing in equi-distant parallel rows, introduced a new system of farming. It has the manifest advantage of allowing frequent hoeing, which both destroys the weeds and stirs and breaks up the surface of the land between the rows, thus allowing the soil to be benefited by absorption of nitrogen and moisture from the atmosphere. There is great saving of seed and artificial manure, which can be deposited so as to be in immediate contiguity with the young plants, and thus exert a quicker influence on their growth. It is a great desideratum to get the young plant of such root crops as are subject to the ravages of the fly forward as quickly as possible. The horse hoes (described hereafter) now used are generally made of the same gauge as the drill they have to follow.

The *Corn Drill* consists of a long trough or box carried between a pair of travelling wheels fitted with a spindle carrying cups on discs, or with an endless chain for delivering the seed. The box or trough is kept supplied with seed-corn. The spindle is put in motion by cogs on one of the travelling wheels. In its revolution the cups catch up a few of the grains and empty them into the tubes, by which they are conducted downwards and deposited in the drills (or grooves) made in the surface of the earth by coulter attached to the machine and working in connexion with the seed tubes. The seed is afterwards covered with soil, either by an arrangement following the tube and attached to the machine, or by harrows following as a separate implement.

This system of cups and coulters, &c., is the chief feature in all drills. There is a great variety of form to suit different circumstances and kinds of seed. They may be enumerated as follows:—

Corn Drills for sowing wheat, oats, barley, and seeds requiring similar cultivation.

Turnip, Mangel-Wurzel, &c. requiring to be planted in rows of greater width, either on flat ground or ridges.

Small Seed and Rye Grass Drills which require to be more generally distributed over the soil.

The General Purpose Drill is a combination of the separate implements used for corn, turnip, mangold, clover, and other seeds, and also for artificial manure. It requires, however, some changing and alteration of parts to adapt it to each purpose, and therefore, on large farms, the separate drills are more frequently used.

Drills are also made for manual labour upon a small scale for single rows of turnips and mangolds, and for the market gardeners' use. There are drills specially adapted for hill sides and for small farms.

Ridge Drills.—It may be explained that in some places it is found advantageous to grow the root crops on a ridge of fine soil. The ridges having been formed by the ridging plough, the drill is fitted in front with small concave rollers which immediately precede the coulters (which form the drills or grooves in the soil in which the seed is deposited). These rollers consolidate the ridge, whilst smaller ones are fixed to follow last to press the seed into its place, and cover it with earth. The various contrivances for adjustment, regulating the quantity of manure, seeds, &c. are far too numerous to be explained, and would be almost unintelligible, without complicated details and diagrams; the requisite regularity, however, is generally obtained by means of different sized cog-wheels altering the speed of the cup barrels.

There has lately been introduced a new invention for the same purpose as the seed cups in drills, &c., a disc discharger. The disc is waved or spiral, and discharges from each wave through a hole over which it works. The barrel only works as the drill advances, so there is no waste in turning at the headlands.

The Drop Drill is for turnips and other seeds with manure on the flat or ridge. It is constructed so as to drop the manure at any intervals or depth required and covering it with mould, and then to drop the seed in any minute quantities directly over the manure, leaving a portion of mould between them.

Artificial and Liquid Manure Distributors, Water Drills, &c. are all more or less on the same principles as the drills before alluded to; they are used for applying water or liquid manures to turnips, thus enabling the soil to absorb the powdered or artificial manures, thereby preventing them from burning the rootlets of young plants.

Manure Distributors are very useful for top dressing crops with guano, nitrate, soot, &c. They prevent the light manure being blown about by high wind, and secure regularity in distribution.

Drill Pressers have a heavy iron wheel with convex periphery for forming and consolidating seams or hollows in the furrows of newly ploughed land for receiving seed, corn, &c.

Land Pressers are also used (like the clod crushers) for pressing the young plants of wheat when drawn out of the earth by frosts, and are useful to prevent wire-worm.

Horse Hoes of large size are made with hoes fitted to levers and suspended from a framework carried on travelling wheels. They are made to match (in width and number of rows) the drills by which the seed was sown, so that the hoes pass between the growing crop. Whilst each hoe by means of its lever has a certain amount of independent action, the whole of them can be simultaneously raised, depressed, or moved laterally by the labourer, and be guided between the rows without damage to the plants. Smaller horse hoes are made to take two or three rows only; also hoes with two or three knives to take a single space of greater width for root crops, &c. The effect of horse hoeing is most beneficial, not only by destroying weeds, but by loosening the top surface and thus promoting the growth of the crop and retaining moisture. This operation is also cheaper than hand hoeing, and being quicker the work can be finished off at the time when it is most required, and frequently when labourers could not be spared to do it by hand.

Turnip Thinners.—The object is to thin the plants and leave them the proper distance apart in the rows. This operation, however, can only be partially completed by a machine, because it leaves the plants in bunches, rendering it necessary for the superfluous plants in each bunch to be removed by hand labour. There is some disadvantage in using these implements on crops when the young plants are thin and irregular, because the machine, in consequence of its working uniformly, may cut up those which a labourer using a hand hoe would see it necessary to retain. In most of the machines the operation of thinning is performed by revolving hoes working at fixed intervals and cutting across the rows. The process can be applied to turnips either on the ridge or flat, but on the flat an ordinary lever horse hoe can be worked at right angles across the rows with good effect.

MACHINES FOR HARVESTING CROPS.

Reaping Machines.—Many years back attempts were made to reap crops by machinery, and as early as 1827 Bell's reaper was invented in Scotland; other forms were tried, but much attention was not given to the subject till the Great Exhibition of 1861, when two American reapers were exhibited (McCormick's and Hussey's) which, although far from perfection, were certainly a great advance in the right direction. The cutting portion of Bell's machine (undoubtedly the original reaper) was formed of a series of shears or scissors, the shanks of which were connected to bars, so that the whole series could be worked at once. The American improvements consisted in forming the cutters of triangular pieces of steel, firmly riveted to a bar, one angle pointing forward and the edges made sharp. These cutters were moved by a reciprocal action through slots in a row of projecting points (called fingers), which on entering the standing corn hold the

stems in position to be cut, and they also act as a protection to the cutting edges of the knives. Hussey's and McCormick's knives were similar in action, but whilst one formed an acute angle with a sharp smooth cutting edge the other was at an obtuse angle, with a serrated edge or sickle cut. The American machines also differed from Bell's, as the horses walked by the side of the reaper instead of propelling it before them.

Bell's machine, however, was so little known that at that time reapers were considered the greatest agricultural novelty of the Exhibition. Ever since 1851 improvements have constantly been made in these machines. The corn was laid either in a swarth, i.e., continuous row, by the side of the machine, or in heaps at the rear of it, by means of a large hand rake worked by an attendant riding on the machine.

From time to time different methods of delivering the crop have been brought to notice.

Manual labour on the machine with the rake has been superseded by automatic machinery, and the corn is now laid in bunches at the side ready for binding into sheaves. This process is accomplished by self-acting rakes, two or more of them being used as gatherers, acted on by a "cam" motion, answering the double purpose of first pressing the standing corn gradually towards the knives, and carrying it, when cut, over the quadrant-shaped platform, and depositing it on the land at the side of the machine. It might appear that the rakes or gatherers when coming in contact with the standing corn would cause the grain to shed, but their action is so gradual and regular that they only gently bend the straw towards the knives. During high wind this arrangement is most useful. The gatherers can be regulated so as to deliver more or less frequently, according to the thickness of the crop. By causing all the rakes to be used as gatherers, a swath or continuous line of cut corn can be produced; this is usual in the case of barley, which is not generally tied up in sheaves like wheat.

There are adjustments for various purposes, such as varying the height of the gearing, altering the angle of inclination so as to raise up laid corn, &c.

The form of knife now in general use is the same as that introduced by Hussey in the 1851 Exhibition; modifications in the angle of cut and other matters of detail being adopted by different makers. The sickle-edged cutter appears to have gone out of use.

Steam Reaper.—The machine propelled by horses is that which has been adopted as a steam reaper, i.e., to be driven before a traction engine. By means of a gib or crane in front of the engine the whole of the reaper is raised off the ground when turning at the end of the field, or when being removed from place to place. It cuts 12 feet wide. The motion of the knives is obtained direct from the steam engine, and is not in any way dependent on the travelling wheels of the reaper, as in that for horse-power. It will cut about 30 acres in a harvest day. The steam reaper being only of recent introduction, it will require the test of experience to determine whether it will become practically useful.

Sheaf Binders.—Quite recently a further addition has been made to the reaping machine by mechanical means to actually bind or tie the sheaf. The cut corn, after falling on to the platform, is collected to the side of the machine, and there tied either with string or wire before it is thrown off on to the ground. The invention originated in America, brought into existence by the peculiar requirements of that country; it is most ingenious, and will well repay careful inspection.

Mowing Machines for mowing grass, clover, lucerne, &c. The principle of the cutting parts is the same as in the reapers. Of course the fans or rakes and the platforms for receiving the corn are dispensed with, and the crop is left in a wide continuous swath, being well distributed for drying.

Hay Making or Tedding Machines consist of an arrangement of forks revolving round an axle between a pair of travelling wheels which give motion to the whole.

The forks, which revolve rather rapidly on the axle, as the machine travels forward, catch up and toss the newly mown grass over the machine, or by reversing the action of the rakes throw it out behind the machine, thus opening it out and lightly distributing it over the ground, an operation formerly performed by manual labour with hand forks. The tedder, drawn by one horse, can perform the work of about 20 men.

Horse Rake.—The machine is constructed of iron and is worked by one horse. It is carried on two wheels, and consists of a number of long tines, each hung so to work independently, rising or falling, so as to suit any inequality in the surface.

At intervals the attendant raises the whole of the raking tines (i.e., the whole raking part) by pressing a lever handle, so that the hay or corn which the rake has collected is released and left lying on the ground in a row. The rake is then immediately lowered again, and proceeds to collect as before. Recently machines have been made with an automatic apparatus to act on a lever which regulates the raising or falling of the rake.

Loading Machine.—Newly invented for loading crops of corn, hay, &c. It is to be drawn by one or two horses at the side of the waggon. A fixed rake gathers the produce, which is taken up by a series of revolving rakes attached to an endless band which elevate it to the top of the waggon. When perfected this machine may become useful as a labour-saving machine at the busy time of harvest.

Drying Machine for Hay, Corn, &c.—Within the last few years newly-invented machinery has been constructed to dry hay, corn, &c. in wet seasons. A gigantic fan draws hot air (temperature from 300° to 500° Fahrenheit) by means of an air duct into two large troughs; into the upper ends of them the grass or wet hay is fed by the combined action of an oscillating floor and cranked tines, and passes down to the lower end. The tines are adjusted so as to lift up the grass or hay incessantly and let it fall again, so that the streams of hot air rushing from the ducts have free access to every part.

The hottest air and greatest force of the blast is delivered on to that portion of the hay, &c. which is in its wettest condition, and the heat and force are both gradually reduced as it passes along. The temperature of the air and the rate of volume of the hot air are under control, enabling the workman to deal with products containing all per-centages of moisture.

The machine can be worked by a $3\frac{1}{2}$ horse-power engine by a single belt from the fly-wheel.

The inventor calculates that hay with 35 per cent. excess water can be dried at the rate of 24 loads per day, and green crops with 70 per cent. of excess water at the rate of eight loads per day.

The system might be applied to the drying of straw-crops, flax, hops, rice, coffee, &c. &c.

IV.—MACHINES FOR PREPARING CROPS FOR MARKET, AND FOR FOOD FOR ANIMALS.

Steam Engines are too well known to require explanation. Those used in agriculture differ but little if at all from those used for other purposes, they are 1st, fixed, 2nd, portable (*i.e.*, moved from place to place by horses), 3rd, self-moving, or traction.

It is only within the last 40 years that portable or moveable engines have been used on the farm, and their introduction may be regarded as forming a special epoch in the history of agriculture, for thence have resulted steam threshing, grinding, &c., whilst the further improvement of making them self-moving by their own steam, and converting them into traction engines, has been a great step in advance, and has materially promoted the application of steam power to the cultivation of the soil.

Many improvements have been introduced from time to time, and great perfection has been attained.

Straw Burning Engines.—As the Paris Universal Exhibition is for all nations, it may be well here to refer to a variety of the steam engine, which, however, is useful only where no ordinary fuel is procurable. Straw is utilized as fuel. Several plans have been invented to effect this, some to be worked by hand. The straw is fed into a large fire-box through a hopper either at the ordinary fire-door or at the bottom of the fire-box. There is also a self-acting arrangement by which the straw can be fed through the ordinary fire-box door by the action of rollers fixed in the end of a trough in a similar manner to the feeding arrangement of a chaff cutter.

Most of these engines are constructed to burn either coal or wood when procurable.

When not required for straw burning the feeding apparatus is removable, and the ordinary doors, &c. for coals are affixed.

Horse Gears.—Horses are attached to long shafts and walk in a circle, thus giving motion to a large cog wheel which drives a pinion and cog wheels, which communicate a rotary motion to a

shaft from which can be driven a horse-power threshing machine or other implement. By the addition of what is termed an intermediate motion more than one machine can be driven at the same time.

Threshing Machines.—Formerly the corn was threshed by the flail, and the stacks had to be removed to the barn, whereas now it is usually threshed in the field by the stack's side. So great has been the progress in agricultural improvement, that at the present time very little indeed of the threshing, or even dressing, is performed in any other way than by steam power.

Taking the machines in the order of invention they stand as follows:—

The Hand-power Threshing Machine is a miniature of the one driven by horses; it consists of a small skeleton drum with longitudinal bars or beaters on its outer circumference; it is driven by a toothed wheel and pinion, causing it to revolve at as great a speed as the power to be applied (two men) will allow.

This operation simply beats out the corn from the straw, but makes no further separation.

The Horse-threshing Machine is an enlarged form of the hand machine, and is more efficient, because the power applied being much greater, a larger sized drum can be used, and more work done in proportion to the number of men employed; also in consequence of the larger size of the drum the straw is delivered in a less broken condition.

The portable steam engine, however, which replaced the horse works, created quite as great a revolution in threshing as in many other branches of industry. It was found that the machine made to be driven by horse power could not stand the strain of the greater power of steam. It therefore became necessary to construct threshing machines of greater strength. Additions and improvements now followed rapidly. The machines were made not only to separate the straw from the corn, but also the chaff from the straw. Then the cavings (or broken ears and pieces of straw) from the chaff. Barley awners or hummellers for taking the awns off the grain, &c. were added, until at the present time the machine called the "combined threshing machine" was constructed to perform all the operations of dressing as well as threshing. It is in very general use, both in Great Britain and other parts of the world where corn is extensively grown.

Combined Double-blast Threshing Machine.—The most perfect machine now has a drum usually 4' 6" wide and about 20 or 22 inches diameter; upon this drum are six or eight longitudinal beaters, and it makes from 800 to 1,000 revolutions per minute. The beaters remove the corn and chaff from the straw. The straw then falls on to shakers, by which any corn remaining loose in it is shaken out, all the corn and chaff descend and pass through a series of riddling and dressing apparatus until the whole is finally delivered in different parts of the machine as follows. The straw from the machine passes on to an elevator or stacking machine by which it is carried to a height of, say 25 or 30 feet, and delivered on the stack. The corn which is still mixed with

short pieces of straw and broken ears (called "cavings"), and also with the chaff, is passed on to a riddle where the cavings are separated. The corn and chaff falling through the riddle are then subjected to the action of a blower or winnower which separates the chaff, whilst smaller riddles separate the seeds of weeds, and other extraneous matter commonly called "spoutings." Lastly, the grain is conducted on to a screen, which can be adjusted as required, even whilst the machine is in motion, to separate the small corn, &c.

Some threshing machines are also fitted with straw bruisers, preparing it for feeding cattle, and leaving it in a state similar to straw from which the corn has been trodden out by animals, whilst others can have also a chaff cutter attached.

Self-acting feeders and guards, &c.—It should here be stated that recently an important addition has been made to threshing machines by adding a self-acting feeding apparatus. The machines were formerly fed entirely by hand, and numerous accidents occurred to the men engaged in this duty. By this somewhat complicated apparatus the danger is removed, there is less waste, and ordinary labourers can do the work which hitherto required a skilled workman, whilst in case of any accident or derangement the apparatus can be instantly stopped. Very simple and efficient guards are also now commonly applied to threshing machines.

Straw Elevators.—The straw, after passing from the threshing machine, is received on to the straw elevator (which is worked by a band from the spindle of the threshing machine), and is thus conducted upwards for the purpose of being stacked. The elevator does the work of several men. Some of the machines are folding, and all are capable of being removed with the threshing machine by the ordinary traction engine.

Stacking Machines.—These are constructed on a similar principle to straw elevators, but are so fitted as to be able to stack straw, hay, or sheaf corn. They can be worked by the ordinary horse gears or other power. There is, however, another form, *i.e.*, "pitchforks," worked by horse-power. Two poles are fixed in the ground and secured by ropes; large double forks clutch the hay, &c., which is then by means of ropes and pulleys raised till over the stack, when, on the attendant pulling a rope, the hay becomes released and falls in the position required. However, the elevator principle has the advantage of not requiring poles and ropes to be fixed, but the fork apparatus is very inexpensive, and therefore may be suitable for small farms.

Seed Drawers.—The clover seed in the haulm is threshed by the ordinary threshing machine. The drawer consists of a conical-shaped drum with twisted beaters, and revolves in a conical-grooved shell.

The position of the drum can be varied by projecting or withdrawing it within the conical shell.

The cob (or seed head) is introduced into the large end of the cone where the seed is drawn, and the final operations of elevating,

winnowing, or blowing, riddling, &c. are similar in principle to those in finishing threshing machines.

Winnowing or Dressing Machines need but little description. The undressed grain is poured into a hopper (or receiver) at the top of the machine, whence it falls in a narrow flat stream, the volume of which can be adjusted by a screw apparatus. The grain is subjected to a current of air, produced by fans placed on a revolving spindle. The blast removes all light substances, and its intensity is capable of regulation. The grain passes over one or more riddles, which separate it into different qualities as required.

Corn Screens.—Some are rotary, others flat. The former consists of a wire cylinder set at an inclination. The wires are arranged at different intervals apart, and are capable of regulation. There are various means, such as an Archimedian screw, &c., for causing the grain to move forward at a proper speed. The flat screens are on a sharp inclination, and by crank action have an oscillating motion. There are various contrivances for regulating the distance of the separating wires and keeping them from becoming clogged. Some corn screens are fitted with a small blower in addition to the screen.

Mills.—The uses of this class of machinery scarcely require mention.

The oldest and (in its modern form) still the most effective mill for grinding grain into the finest meal or for only breaking or kibbling it, is that with a pair of flat stones made from "Burs" imported from France, or produced in Yorkshire and Derbyshire.

There are, however, various mills constructed of cast iron or steel, which do the work for agricultural purposes extremely well, the principle being to rub the grain between two conical roughened surfaces of metal instead of stones.

There is also a variety of crushers, which squeezes the grain between the periphries of two rollers, some having smooth and others fluted surfaces.

These mills or crushers are adapted to kibbling barley, oats, beans, linseed, &c.

Crushers for bruising oats and splitting beans. Corn crushing by steam or horse-power. Linseed crushers, flax breaking mills, bone mills, coprolite mills, and stone breakers, for breaking stones for road making, and other machines too numerous to mention.

Chaff Cutters are made for steam or horse-power, and others for hand. Chaff-cutting is very essential to successful feeding of live stock. Many of the machines vary in details, but the uses of the chaff-cutter are too familiar in every stable to render much description necessary. The general form is that large knives are fixed on a fly-wheel which is made to revolve either by hand or other power, so that the knives come down on the straw placed in a box or trough, the straw being brought forward by means of rollers and an endless web in the interval between the cutting of each knife. Some of the larger sizes, driven by steam, are fitted with elevators for sacking the chaff, and others with self-acting

sifting apparatus, so that any long pieces of straw or cavings are brought back to the machine to pass under the knives again, whilst by the sifting apparatus the dust is also removed before the chaff is sacked up.

Oil Cake Breakers are worked by steam or horse-power, and smaller sizes by hand. They break thick or thin cakes. When for feeding cattle the cake passes through one pair of spiked rollers, but when required smaller for sheep a slide is moved, allowing it to pass through a second pair. Some machines, however, accomplish this at one operation.

Turnip or Root Cutters.—There are two principles chiefly in use, viz., that having a barrel or cylinder with knives on the surface, the other a disc carrying cutters or knives projecting. The cylinder or the disc is made to revolve, and coming in contact with the roots which press down from a hopper (or feeder) are cut into slices or strips which pass through openings made in the surface for this purpose. By adjustment they cut either for cattle or sheep.

Pulpers are similar in principle to the foregoing, with extra knives for stripping, slicing, and pulping.

V.—MISCELLANEOUS IMPLEMENTS.

These are numerous, but as all the agricultural implements of most interest and importance have been alluded to under their respective headings, there appears but little necessity, even if space permitted, to enumerate them here.

SHORT NOTES ON SOME OF THE PRINCIPAL BREEDS OF BRITISH LIVE STOCK

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CATTLE.

SHORT HORN.

THIS breed was formerly called the Durham, or improved short-horn. The breed originated in the north of England, and its history can be distinctly traced back for upwards of a century to certain tribes which the breeders of that date greatly improved by strict attention to the selection of animals capable of transmitting the best points to their progeny.

This breed has always been famous for early maturity and rapid feeding properties, which are indicated by the mellowness of its skin to the touch, for abundant milking qualities, symmetry, and perhaps above all for the remarkable faculty of impressing its own characteristics upon other breeds with which it may be crossed. Bulls from the best herds have been in great demand, and have been the means of developing and extending the short-horn breed gradually throughout the kingdom, and of imparting to the common cattle its useful feeding and milking qualities.

Its value is appreciated not only in Great Britain and Ireland, but in almost all parts of the world.

Breeders in America and the Canadian colonies have imported valuable and high-priced animals, whilst large numbers have been sent to all the countries in Europe, to Australia, to India, parts of Africa, and even to Japan. Some idea of the estimation in which the breed is held may be gathered from the fact that in 1875 as much as 4,500 guineas (118,125 francs) was given for a

bull, and in 1877 4,300 guineas (112,875 francs) for a yearling heifer, and 4,100 guineas (107,625 francs) for another nearly related to her, whilst the herd of a deceased tenant-farmer, consisting of 71 cows and 13 bulls, realised the large sum of 42,919*l.* 16*s.*, being an average of 510*l.* 19*s.* per animal.

As the name indicates the horn is short, semi-circularly curved, and rather flat. The colour of the animals varies from a white to a yellowish tinge of white, some are red, others red and white, and sometimes the white and red are blended, forming a beautiful variegation called "roan," formerly strawberry colour. The head is handsome, intelligent, and the expression docile; the eye is bright and full; the ears are thin and fine, well covered with hair; the neck is short, carrying the head gracefully, and springing straight from the back, which is also straight and broad and round. The ribs arch roundly from the backbone, the hips are well covered and not very prominent; the hind quarters are long and full to the tail, which hangs straight and square from the body; the thighs are full, and deep and broad; the legs are short and straight, the under line is even; the shoulders are well laid, oblique, and falling well on the body so as to form a round deep chest, with a full swelling bosom; the udder is large and soft, coming well forward, and the teats hang squarely from it. The body is well covered with fine soft hair, and the hide is mellow, with a rich appearance indicating the excellent quality of the beef. Altogether the animal, owing to the evenness with which it lays on its flesh, forms nearly a parallelogram; its strong constitution makes it adaptable to all soils and climates, and its excellences are so great that its admirers claim for it the title to be placed as the first of our national breeds.

HEREFORD CATTLE.

The Hereford is supposed to be an aboriginal race, indigenous to the county from which it takes its name. Animals of this breed are, however, kept largely in the adjoining counties of Shropshire, Montgomery, and Brecon, &c., and are fed extensively in many other parts of England, and some parts of Scotland and Ireland; also in Australia, America, &c.

They are remarkably good feeders, laying on flesh abundantly in proportion to the amount of food consumed, and their great aptitude to fatten is favoured by their general placidity of temper. They come early to maturity, whilst the beef is well mottled or marbled, fat and lean, and is highly prized.

In the early part of the present century Hereford cattle carried off a larger proportion of prizes at the great fat stock shows than any other breed. They are handsome, their uniformity of appearance making a herd of them very picturesque in parks. There was a tribe of the mottled-faced, among which were many extremely well-formed animals, and other tribes called the light grey, the dark grey, as well as the red with white face Herefords; but the attention of breeders has been given to securing

uniformity of type, and the prevailing characteristics now are as follows :—

White face, throat, chest, udder, dew-lap, mane, lower part of body and legs and tip of tail ; the other parts of the body red ; frequently a small red spot on the eye, and a round red spot in the midst of the white on the throat.

The body is covered with long soft glossy hair, with a tendency to curl. The horns, which are beyond the medium length, are tapering, and have a yellow or white waxey appearance, frequently dark at the ends. Those of the bull spring out straightly from a broad flat forehead, whilst those of the cow or ox usually have a graceful wave with a slight spreading upward tendency. The eye is full.

The chest is expanded, full, and deep, and projecting firmly ; the ribs are well-sprung ; the back is broad and legs short, indicative of the hardness of constitution for which these cattle are esteemed ; the bone is small, and the offal is light.

The production of steers for grazing purposes having been the chief aim of the breeders, but little attention has been paid to the milking properties of the cows ; in order to secure success with the progeny, the calves have usually been allowed to run with their dams, and perhaps thus the cows have obtained the character of being indifferent milkers. They are nevertheless kept on many dairy farms in the western counties of England. The Hereford crosses with almost any breed, and imparts an aptitude to fatten.

DEVON CATTLE.

This is perhaps one of the oldest breeds in England, and has always been the favourite stock in Devonshire and the adjoining counties, and they are also kept in other parts. It may be termed a middle-horned breed. This race possesses a hardy constitution, which enables the animals to thrive in a cold poor district, whilst they answer well on almost any soil or in any climate. They have great aptitude to fatten, are small consumers, come early to maturity if kept well from their birth, and the meat commands a first-class price in the metropolitan and other great markets. They produce milk of great richness, containing a large volume of butter, and it is from this milk that the celebrated Devonshire clotted cream is made.

When oxen were generally worked these cattle were much prized for the purpose, as they were very active. They are distinguished also by elegance of appearance, which makes them great favourites.

Formerly there were two very distinct types of Devon cattle—viz., the small compact North Devon, and a larger animal sometimes passing under the title of Somerset. Some are, however, now much more nearly assimilated in general character, the size of the former having been increased, and yet the essential of quality retained.

The Devons are comparatively short but thick and heavy for their height; the carcase is cylindrical, and the skin has a beautiful touch to the hand.

The colour is a pure rich red, with fine silky hair.

The horns have a yellowish waxy appearance, tapering and gracefully curved upwards and outwards. The head is small and well put on; the muzzle is very fine. The eye is clear, bright, prominent, and shows a good deal of the white round it.

The chest is very wide in proportion to the size of the animal. Legs are short, small, and very fine in the bone, and the animal altogether possesses a very neat and beautiful symmetry.

LONGHORN CATTLE.

The original breed of longhorn appears to have sprung from Yorkshire, thence to have subsequently receded to Leicestershire, Warwickshire, and Derbyshire, but they have of late frequently passed under the name of Leicestershire longhorns.

The horns fully bear out the name of the breed; they grow in such a manner as to be very distinctive; they curve forwards and hang down towards the muzzle, and sometimes actually grow so much inwards as to touch the cheek.

The colour is generally dark red, brindled, and pied, with white along the backs. The coat is good and the back straight. The females are very broad in the hips and are good milkers. Many of the cross-bred milch cows in various parts of England show that they have a dash of longhorn blood in them.

There are, however, but very few herds of this variety now kept. It crosses well with other breeds.

NORFOLK AND SUFFOLK POLLED CATTLE.

From time immemorial the polled cattle have been in the county of Suffolk, and they have always been described as great milkers. In colour they are either red, brindled, or of a yellowish cream, but now only the red are recognised as the pure breed.

No doubt the present polled breed was the result of a cross with the Galloway cattle, large numbers of which were formerly brought to the Eastern counties to be grazed. The tuft of hair growing downwards on the forehead is common to both breeds, whilst occasionally a black nose, a "slug" horn, or a spot of white on the face, or more frequently on the udder or belly, gives an indication of the original blood. The Norfolk and Suffolk have of late years been so much inter-bred that they have become practically identical.

Among the good qualities which the red polls possess is hardness of constitution, which enables them to thrive on scanty pasturage, and to withstand the severe winters and cold springs usually experienced in the Eastern counties.

Their milking properties are unquestionable, as they have not a tendency to go dry like many other breeds having a reputation as

dairy cattle, and it not unfrequently happens that the cow will continue to yield a good quantity of milk from one calving to another.

The beef is extremely good.

In order to ensure uniformity of type, the breeders have determined on the following characters which they should possess.

"The colour red. Tip of the tail and udder may be white, and the extension of the white of the udder a few inches along the inside of the flank, or a small white spot or mark on the under part of the belly by the milk veins shall not be held as disqualifying an animal whose sire and dam form part of an established herd of the breed, or answer all other essentials of the standard description.

"There shall be no horns, slugs, abortive horns."

SUSSEX CATTLE.

Formerly this breed was used in place of horses for working, ploughing, &c. They were very active and well suited to such purposes; however, of late the working of oxen has decreased in a marked degree, and the breeders of Sussex cattle have turned their attention to the improvement of the animals with great success. They resemble the Devons in many respects, but are larger.

Formerly they were not, as a rule, grazed till after they were done with for working, but now they are got to early maturity and produce good beef.

They are very hardy, and do well on poor pastures.

The cows are not good milkers. They are, like the Devon, all red, but have larger horns, heads, and bones. They are kept chiefly in Surrey and Kent.

GALLOWAY CATTLE.

The Galloway cattle are of ancient origin. They were formerly partly horned and partly polled, but by selection have now become polled, though occasionally some have small "slugs" or stumps which are not affixed to the skull. They are kept throughout the Galloway district, Wigtonshire, Kirkcudbright, &c., but are not so universal there as formerly, more of the Ayrshire being now kept in their place.

They are sent south extensively to Norfolk and Suffolk for grazing, to which they are well suited, as the meat is of excellent quality. They are not good for dairy purposes, the quantity of milk they yield being small in proportion to the size of the animals.

They are extremely hardy, having a thick coat which fits them for their native climate, which is cold and moist.

They are frequently crossed with short horns, and the produce attains early maturity. Then the colour is frequently a greyish slate, especially along the back; also they are sometimes crossed successfully with Ayrshires.

The pure Galloway, however, is usually black, the eye is rather dull and sleepy; the ear is thick and very hairy; the back is straight; the head is crowned with a semispherical knob, tufted with hair; the legs are short and strong.

POLLED ANGUS OR ABERDEEN.

There is some resemblance between these and the polled Galloways.

This Angus breed is supposed to be descended from what were formerly termed "Angus doddies," or Aberdeen Hummies. It is numerously represented in Aberdeenshire, Forfarshire, Kincardineshire, &c.

Great improvement has been made of late years in this breed by careful selection, and very beautiful animals have been exhibited at both breeding and fat-stock shows.

They are very hardy, docile, large, coming early to maturity, and good breeders, and the meat is of excellent quality.

Their coat is short, smooth, silky, and glossy, and almost always black, though occasionally some animals have small dull white spots, and still more rarely some are red or brindled. The head is tufted with hair, the ears are rather thick and hairy, the muzzle is somewhat coarse, the legs are well boned, and of moderate length. A cross between this breed and the short horn results in a good grazing animal, which fattens well and evenly.

AYRSHIRE CATTLE.

This breed takes its name from the county of Ayr, situated on the south-west coast of Scotland. The origin of it is not thoroughly known, but for a considerable time breeders have taken great pains, by selection and judicious breeding, to increase the properties for which Ayrshire cattle are famous, and which are in a great degree indigenous. Ayrshire has a very moist atmosphere, but these animals are so hardy that they bear almost any variation of climate, thriving well on high-lying districts without losing their milking properties; whilst a milder atmosphere and rich pasturage suit them perfectly.

They are not confined to the county from which they derive their name, but are spread over the adjoining counties of Renfrew, Lanark, &c., and other parts of Scotland, and are now to be found largely in England and elsewhere.

Their great attribute is their excellent milk, which is good in quality and extraordinarily large in quantity.

They may be denominated a rather small breed.

Their colour is usually red or brown and white, in large patches; or all red or brown, and sometimes black and white.

The horns are fine, curve upwards, and are placed on wide apart at their base. The neck is straight from the head towards the top of the shoulders, which are very thin on the top; the back is straight.

The body becomes larger, both in width and depth, as it approaches the hind quarters. The tail is long, fine, and bushy at the end. The legs are short and small in the bone. The eye is mild, and the udder very large.

They have extremely docile dispositions, a quality most desirable in milk cows. Certainly milk is their speciality.

As grazing (*i.e.*, meat-producing) animals the pure breed does not pay so well as many other kinds, but they are sometimes crossed with the shorthorn, and thus their size is increased.

The produce combines some of the size of the shorthorn with the hardiness of the Ayrshire, and attains early maturity; whilst this cross is but little, if at all, inferior to the pure breed in other respects.

WEST HIGHLAND (OR KYLOES).

As their name denotes, these animals are natives of the West Highlands of Scotland, and were formerly known as North Argyleshire cattle. They are celebrated for their grazing properties, the meat being of the finest quality, and commanding the highest prices in the principal English markets. For dairy purposes they do not rank so highly, because the milk, though good in quality, is deficient in quantity. They are extremely hardy, vigorous, quick, and active, and capable of enduring both the damp and cold boisterous climate of the Highlands. They thrive admirably on low lands, where they are generally fattened, and are in great demand in England for grazing. Their hardy nature does not require that they should be housed, and they will consume and thrive on coarse pasturage, which sheep and many other kinds of cattle would leave untouched.

It is best to graze them for a time before putting them to fat, as they require being gradually accustomed to yards or boxes. Of late years much care and attention has been paid to improving the breed, and frequently handsome animals are exhibited at fat-stock exhibitions; whilst both on their native hills, where their appearance is somewhat wild, and afterwards when being grazed in pastures, their picturesque beauty is always highly appreciated.

Their stature is usually somewhat small. They are clothed with a thick skin, having abundance of long, glossy, and shaggy hair, indicating hardiness of constitution in the highest degree. This thick coat is a protection against the atmosphere of winter and from flies in summer. The colour varies; some animals being black, others red dun, yellow, and brindled (red and black). The head is short, and has a profusion of long shaggy and curly hair, coming down below the eyes. The muzzle is fine, and the nose slightly turned up.

The eyes are prominent, and have a quick piercing glance. The horns are wide apart, long, curved, and pointed; the body is straight, thick, very deep, compact, and well formed.

The legs are short, and extremely muscular.

The attributes of this breed may be summed up as a combination of great hardiness with splendid quality of meat.

WELSH CATTLE.

The Welsh Runts, as they are sometimes called, may be considered as an aboriginal breed, but they have been found to vary very much in quality. This arose from sufficient care not having been taken formerly in selecting them for breeding.

They are apt to be somewhat ragged in outline, though fairly good specimens are occasionally to be found, especially of late, as more attention has been given to form and quality.

They may be denominated a middle-horned breed, rather inclined to long. The horns are wide spreading, white tipped with black, and curving upwards.

The colour of the animals is usually black, and some have a little white. The meat is good.

These animals, even when fattened, seldom show that cylindrical form which is so desirable; they usually run narrow in proportion to their height, as compared with most other breeds.

They are hardy, and from not being costly when bought as lean stock, they are frequently resorted to for grazing.

There are also the Glamorgan, Pembroke, and Anglesea cattle, but as it is not probable that any will be exhibited at Paris, it may be sufficient just to have alluded to the Welsh Runts, as above.

KERRY CATTLE.

The Kerry (Irish) is a small breed, handsome, and very docile.

The cows are good milkers for their size; from the ease with which they are kept in a limited space they are often called the poor man's cow.

The butter is good.

The Kerrys fatten rapidly on indifferent pastures, and the beef is excellent.

The head is fine and small, the eye quick and animated.

Frequently the animals do not exceed 40 inches in height.

CHANNEL ISLAND CATTLE.

The stock passing under the name of Channel Island comprises two distinct breeds, viz., Jerseys and Guernseys, which for a long time were accepted in England under the general title of "Alderneys," the probability being that they were first introduced from the island of that name. It has only been of late years that the difference existing between them has become generally known.

The origin of these cattle cannot be traced to any particular locality. They are supposed to have existed in the Channel Islands from very remote times. In all probability they are the descendants of cattle from the neighbouring coasts of Normandy and Brittany. They have been for centuries kept to a certain uniform type; this, with the effects of climate, soil, and management has established fixed specialities.

The Jersey cow is too well known for its neatness of form, slender frame, its deer-like head, its gentleness, and the richness of its dairy produce, to require comment.

In early times the Jersey cow did not possess the attractive appearance it now does.

Very great improvement has taken place, and proportionately the money value of the breed has increased. The symmetry which the Jersey cow should possess is determined by a scale of points which has been drawn up by the Royal Jersey Agricultural Society.

It will be seen that such characteristics as denote milking qualities, including richness of milk, receive the greatest number of points. In short, the Jersey cow is intended to be, and is, essentially a dairy animal.

The cow of the sister isle, Guernsey, is different in appearance, being considerably longer. The type is coarser, the colour is almost uniformly red and white. The muzzle, the skin round the eyes, the tips of the horns are generally of yellow or brownish tint, whereas in the Jersey breed these are black. The Guernsey is, however, better calculated for meat forming than the Jersey; it is a valuable dairy cow, but a greater consumer of food. The characteristic features of the two breeds are unmistakable, though occasionally some individual exceptions which resemble the one breed or the other are met with. The latter remark applies more to the females than to the males. In both breeds a yellowness is observable inside the ears, about the horns, the udder, and the tip of tail. These characteristics are considered to indicate the richness of the milk produced. The Channel Islands cattle are healthy, breed well, and last long. The principal malady to which they are subject is milk fever, which, if prompt measures are not taken, proves a sure destroyer.

In both islands the entry of foreign stock for breeding purposes is prohibited. The law enforcing this has been long in existence and most rigidly observed, this accounts for the purity of the breeds in these islands. The animals are narrow between the shoulders, have short smooth coats, and eyes have a mild docile expression.

The importance of breeding from pure bred animals possessing not only good type and points, but also having a good pedigree, is now becoming daily more and more recognised by the best breeders, and therefore it may be well here to observe that at the present time almost every leading British breed has a regularly published herd book, to which the attention of foreign purchasers should specially be given.

SHEEP.

LEICESTER.

The old Leicester sheep kept in the county of that name during the first part of the last century were large coarse animals coming late to maturity but having abundance of coarse wool. Those now in use are descended from the Dishley stock, which was bred chiefly to rectify the faults in the carcase by improving the

symmetry, and to obtain early maturity. In accomplishing this, however, at first a corresponding diminution in the quantity of wool resulted. This defect, however, has been remedied of late years, and a good body with a moderately abundant fleece has been secured; but it is not so heavy as that of the old Leicester and some other breeds. The fleece may be said to be not an absolutely long wool, but rather inclined to middle length. It is not so valuable as formerly now that Australia sends to England the best quality *marino*, adapted to finer kinds of fabrics.

It is used for serges, carpets, &c.

These sheep are earlier in maturity than most other long woolled breeds, and the fat and lean are generally more equally distributed. They are, nevertheless, usually rather apt to lay on too much fat; for this reason the mutton is not so highly prized as Southdown, &c., but still it is of excellent quality. They succeed on land where they can be well fed, and their constitution and habits indicate them as suited to a highly cultivated and fertile soil but not to poor thin land. Rams are largely exported to New Zealand and Australia. There are many points of resemblance between the Leicester and Lincoln sheep. The Leicesters are more symmetrical but not so large as the Lincolns.

The Leicesters are valuable for crossing, and the mutton resulting is excellent. On this account they have been used for improving many of the existing breeds.

The head and ears are covered with short white hair. Some are rather bald on the forehead, but this is generally caused by their having been housed. The ears are long and thin; the eyes full and quick; the chest deep and wide; the backs broad and straight; the bone fine.

The wool is the best of the long stapled bright coarse wools, and is used for making the best quality lustre yarns.

BORDER LEICESTERS.

This breed is much esteemed in the north of England. It is probably a cross between Leicester and Cheviot, the fleece, however, is very good when they are kept on rich land, and have shelter; they will do well on a small quantity of food, and they come early to maturity.

The flesh is somewhat coarse in grain with a large proportion of fat.

They cross well with Cheviots, Blackfaced, and Southdown, &c.

LINCOLNS.

The Lincolnshire sheep were formerly chiefly valuable for their wool, which grew 8 to 10 inches long, and the fleece was extremely heavy. In consequence, however, of the carcase not being good but few of the old sort are now kept. The Lincolns have been greatly improved by careful breeding and crossing, and in many respects they much resemble the Leicesters, though they are larger and still continue to produce heavy fleeces, a point in which they also excel the Cotswold and other breeds.

They have good symmetry, substance, and flesh, and they come early to maturity, with a tolerably fair proportion of fat and lean.

They have hardy and good constitutions. They thrive on bad clayey soils, and where the land is wet. Their hardiness and general good qualities recommend them for increased cultivation. They are generally bred on the higher lands and grazed on the lower.

They are valuable for crossing, and are exported for this purpose to Australia, New Zealand, South America, and other parts. Some of the cross bred Lincoln wool from Australia is extremely long, and of very superior quality.

The Lincoln wool is a long stapled, bright, coarse wool, differing from the Leicesters in being longer and coarser, but it has better lustre, and is used for the same purposes.

COTSWOLDS.

They derive their name from the Cotswold Hills, a range from 1,100 to 1,200 feet above the level of the sea, and running through the eastern side of Gloucestershire. They are one of the oldest breeds in England. The Cotswold sheep are kept in Gloucestershire, Oxfordshire, Herefordshire, &c. They are a very large hardy race, specially adapted to cold and exposed situations and to rough pastures. They come early to maturity, and produce a large amount of good mutton; they are, however, rather apt to lay on too much fat. The frames are large, and when fattened are surprisingly wide and flat on the back. The hind quarter and thighs are full, and the rumps frequently overhang. The chests are very prominent and wide.

The face is white and the countenance fine. They carry a heavy fleece of beautifully curled white wool, long in staple, and of a lustrous character, used for "combing," and generally for the same purposes as that of the Oxfords.

They are excellent for crossing with other kinds.

From a cross between Cotswolds and the black-faced or the Hampshire Downs has been established the breed called Oxford Downs. They are frequently crossed also with other varieties.

SOUTHDOWNS.

The name is derived from the Southdowns in Sussex, a range of hills extending about 60 miles, and are of moderate elevation and abounding in short fine herbage. The atmosphere is dry and healthy.

Large flocks of Southdown sheep are kept here because they will exist on short keep when the pasturage is hard stocked, and from their hardy constitution they are capable of enduring the bleak winds in winter and the drought in summer.

They are adapted to a dry hilly country, and are active, having often to walk far for a scanty supply of food, and they thrive on most other dry soils, hence they have been found to succeed well elsewhere, such as in Cambridgeshire, Norfolk, Essex, &c. They are exported to many of the colonies and other countries. They are small consumers of food, and come early to maturity, with an

aptitude to fatten. The Southdown mutton is held in the highest estimation, and commands the best price. They possess a symmetrical and neat form, which is greatly admired.

The bone is small, the body thick and cylindrical, the ears wide apart. Both the ears and forehead are well covered with wool, which forms a protection from fly.

The eye is full, bright, and quick, the chest wide deep and projecting, the back flat to the tail, which is set on high, the hind legs are very full on the insides and wide apart.

The Southdowns are not only valuable as a pure breed, but also are admirable for crossing with others; when crossed with long-woolled sheep an animal is produced having a large frame and yielding excellent mutton. The fleece is short, close, curly, and fine. The wool may be classed amongst the finest qualities, and is the shortest staple wool of Great Britain. It is now used chiefly mixed with Australian wools.

HAMPSHIRE OR WILTSHIRE DOWNS.

The Hampshire or Wiltshire Downs formerly possessed an unsymmetrical form and coarseness of head. These characteristics they inherited from their progenitors, the old Wiltshire horned sheep of the last century.

By careful breeding and judicious crossing, however, they now have neat heads and are of a uniform type. The carcase is weighty, well formed, and the mutton is excellent.

The great improvement thus effected of late has caused them to become very popular, especially within the last 10 or 15 years. They now approach much nearer than formerly to the Southdowns, which breed they greatly resemble, but they are larger and stouter. They are very profitable sheep, prolific, and good mothers, and from their hardy nature they can withstand the exposure and cold of the Wiltshire, Hampshire, and Buckinghamshire hills. They are largely kept in Dorsetshire, Oxfordshire, Gloucestershire, &c. They are very valuable for crossing with other breeds, and are extensively used in the Midland and Eastern counties for this purpose.

The fleece is of average weight and quality, of middle staple, but rather wasteful, thus inferior to the Southdown.

KENTISH OR ROMNEY MARSH.

For centuries the Romney marshes have had a breed of sheep peculiarly suited to the district, which is a flat low-lying alluvial tract of some 60,000 acres. The great characteristics of these sheep have always been and still are their extreme hardiness and power of enduring all weathers, particularly the strong winds that sweep so keenly across this marsh, to whose rich pastures they are specially suited. They are also bred on the grass lands in the interior of the county, and the marsh farmers often renew their strains from these localities. These sheep are to be found in many parts of Sussex, Essex, &c.

Formerly the type of this breed was a deep but narrow animal with sharp shoulders and the fore legs close together ; it is, however, now much improved. Possibly there may have been a cross with the Southdown, as in many flocks known to have kept for many years scrupulously pure there is occasionally an appearance of a sheep possessing the characteristics of that breed, and perhaps formerly there may have been other crosses, such as Dorset and even Cotswold longwool, nevertheless the sheep have not suffered in hardiness. They are not large, and therefore have not been so extensively exported as some other long wool breeds. They are, however, occasionally sent to the Falkland Islands, South America, &c. They come early to maturity, and in this respect are quite equal if not superior to other long wools ; but in point of symmetry they are not so good as some other breeds, nor is the handling of the shoulder and back so perfectly level (except in the most improved flocks), nevertheless in respect of the depth of shoulder and thighs, and thickness of actual flesh, will compare favourably.

The fleece is heavy and long, and possesses fineness of fibre, good lustre, with a curl in the staple which gives it the "spring" which is so much prized. Its special feature is its good spinning properties. It is used to mix with mohair.

SHROPSHIRE SHEEP.

The county from which they derive their name is situated in the midland district of England. Till within the last 40 years they were but little known beyond the border of their native county. They were then, however, hardy animals of good size and quality and good wool growers, consequently profitable sheep, but they were wanting in symmetry, and the spotted legs and faces gave them a want of uniformity to which sheep breeders from other districts objected. Of late years, however, these defects have been remedied by great care in selection for breeding. Thus much style and character, together with a dark face and legs, have become established in the breed. The result has been that they attained much popularity, and have become the favourite breed in the midland counties. They have been introduced into other parts of England, also into Scotland, and Ireland.

They retain their original hardiness of constitution, weight, and quality of flesh and wool, with aptitude to fatten. Perhaps the most valuable peculiarity is that they thrive well when kept thickly on vale land not naturally adapted to sheep.

They are very prolific, good mothers, produce fine mutton, and yield a good fleece close and fine in staple, of middle length and medium quality, above the average softness of English wools, and it is used for mixing with Irish and other wools for export yarns.

OXFORDSHIRE.

This breed possesses the characteristics of a combination of the Cotswolds and Hampshires or of the Sussex Down, from the admixture of which breeds they are no doubt derived, but by a

uniformity of type having been adhered to they have now become a recognized breed.

They succeed on mixed soils and feed on the green crops of arable land better than on sheep runs. They are good mothers and very prolific and come early to maturity. They are dark in colour, the poll is well covered with wool, with a top-knot on the forehead; the legs are dark.

They are sometimes crossed with Hampshire ewes to produce early lambs. The fleece is thick and the wool is somewhat long in staple, coarse and hard in quality, and is manufactured with other wools for home and export yarns.

RYELAND.

This old breed originated in the valley of the Wye, a tract on which rye was formerly largely cultivated, and hence their name is supposed to be derived. They are bred in Herefordshire, the neighbourhood of the Malvern Hills, Monmouthshire, &c. They are not, however, now kept extensively as a pure breed. The heads are small. They have no horns, the wool is soft and fine, and is of good quality for carding purposes, but the fleece is very small and consequently not remunerative to the farmer.

WELSH-MOUNTAIN.

The Welsh sheep are a small horned (*i.e.*, males) breed, wild and active, and they frequent the highest parts of the mountains, thriving on scanty food, and feeding on Alpine aromatic herbs, which no doubt are the source of the fine flavour of Welsh mutton, which is highly prized. The faces are usually white but sometimes speckled or grey.

The fleece varies, some being black, and others brown or grey.

The legs and face are covered with black hair, which is also found on parts of the body. They are slender and very long in the hind quarters. This formation gives them the power of jumping from rock to rock. The tail is long.

They are good nurses and prolific. There is also a large variety of Welsh sheep; they too are active. They roam and cannot be confined within ordinary enclosures. They have a softer wool than the small breed, or indeed many other of the mountain breeds, and it is less hairy in its nature. From this wool the celebrated Welsh flannel is usually made.

The mutton is very small and highly prized for its excellence.

THE RADNOR SHEEP.

Are kept on the hills of Brecon, Montgomery, and in their native county. Some are horned and some not—the type not being very distinctive. They do well on the unenclosed hills on which they are chiefly kept.

The Radnor sheep are excellent nurses. They are hardy, and capable of enduring mountain storms. The mutton is fine flavoured. This breed is often crossed with Leicesters, Shropshires, or Cotswold to produce fat lambs.

CHEVIOTS.

They derive their name from the Cheviot Hills, a mountain range on the borders of England and Scotland. They are kept in the Southern Highlands of Scotland, and have spread even further to some of the heathy mountains of that country as well as to some parts of England. When kept on the low lands they increase in size; and of late years they have become very much improved by careful selection. They are active, especially those kept on the mountains. The lowland breeders prefer the larger types of this breed with short legs. They are not so wild as the other mountain breed, being generally docile, nor do they feed so much as the blackfaced breed on the young shoots of the heath, and they therefore require more grass pasturage. Hence it may be that the mutton does not possess the venison flavour for which that of the blackfaced breed is famous; nevertheless it is extremely good.

They have no horn. The faces are large and white; their thick wool makes them very hardy. It is short or middle staple and of medium quality, with good spinning qualities. It, however, varies much, and is chiefly used for making a soft yarn.

BLACKFACED MOUNTAIN.

Blackfaced sheep were formerly the only kind kept on the heathy mountain ranges of Scotland, and in some of the northern parts of England.

Formerly, from being left comparatively wild and at large on the mountains, there was little selection exercised for breeding, and therefore not much improvement was effected, but of late more attention has been given to correcting defects. The blackfaced are adapted to wild mountains and barren moors, but unlike the Welsh mountain sheep they do not keep exclusively to mountain tops, and they are not so wild in their nature.

They feed largely on the young shoots of heath, especially when keep is scarce. They also will eat coarse herbage. The mutton is excellent, and possesses a flavour nearer to that of venison than perhaps any other breed.

They are extremely active and hardy, capable of enduring cold and hunger, and they thrive on scanty food, having frequently to scratch through the snow to obtain it. They are good mothers.

They have a shaggy fur and coarse wool of middle length or rather long, inclined to curl, but it is hempy, and only fit for the coarsest description of manufactures, such as carpets, &c.

The face and legs are black.

The males have large spirally twisted horns, and the females are mostly possessed of horns, but smaller.

By a cross with the Leicester or Lincoln breed good animals are produced, having the hardy constitutions of the mountain sheep, combined with the early maturity of the Leicester and Lincoln. This cross-bred mutton is very good.

The first cross, however, is the most successful.

DARTMOOR.

These sheep are small, the wool is soft, and the faces and legs are white.

They grow slowly; the mutton is extremely good and is highly esteemed.

EXMOOR.

These are similar sheep to the Dartmoor, but are rather smaller; of late years they have been very much improved; some beautiful specimens have been exhibited at live-stock shows.

The mutton is excellent.

They are hardy and withstand any weather.

They are short, thick, and compact, and have short legs, close fleece, curled horns, white faces, legs, and fleeces.

They cross well with Leicesters.

DORSET.

From a remote period the Dorsets have been recognised as an established breed in Dorsetshire, Wiltshire, &c., and they have become scattered over other parts.

They are extremely prolific, and their fecundity is so great that they often produce lambs twice in the same year.

Their great peculiarity is that they lamb very early, and it is this breed which produces lamb mutton fit for eating as early as Christmas. The early lambs are fed on artificial food as well as suckled by the dams, and great care is taken to keep them warmly housed. Dorset are horned, and have white faces. The body is tall and light, and the legs are long.

The wool is short and not abundant but the quality is good. From it are made the fine cloths manufactured in Wiltshire.

SOMERSETS.

These sheep are similar to Dorsets but larger. The nose has a peculiar pink colour. They are active and prolific. The wool is longer than the Dorset, but the texture is equally fine.

ROSCOMMON.

This breed is said to have resulted from a cross between the pure Leicester and the old Connaught Irish sheep. Much attention has lately been given to improving the breed. They are reared entirely on grass and hay, and come to heavy weight at an early age. The wool is soft, and the staple deep.

HERDWICK.

This breed is a native of Cumberland (one of the northern counties of England). It is supposed that it derives its name from the fact of the flocks of the district having in former times been let out to "Herds" at a fixed price per annum.

The males are sometimes horned, but not always unless they are crossed with other breeds. The horns then are white and waxy in appearance, rising out of the back of the head and curled once or twice. The faces and legs are speckled black and white.

These sheep are small, hardy, wild, and surprisingly active. It is difficult to retain them within any enclosure, for they will

return incredible distances if removed from their native runs. The fleece is thick and matted together. The wool is rather shorter in staple and finer in quality than that of the blackfaced mountain sheep. In other respects it is very similar, and it is used for the same purposes.

PIGS.

BERKSHIRE.

This is a very valuable breed, usually rather above the medium size, and therefore it is ranked as a large kind. The prevailing colour is black and white, the white generally being on the nose, feet, and end of the tail. Some Berkshires are, however, almost all black.

They are a hardy useful kind for general purposes, but not suited either for killing as small pork, or for producing large carcasses for curing as bacon.

The bacon, however, though not large is of excellent quality, the fat and lean being well distributed. The heads are moderately long, the ears somewhat projecting but not drooping, the skin has a slight tinge of pink, the eyes are large and intelligent, the hind quarters often droop rather too much, the legs are short, the hair is abundant and indicates great hardiness of constitution.

LARGE WHITE.

The large Yorkshire, as they are frequently called, are an improvement on the old Lincolnshire, they still however have some of the characteristics of the original breed, viz., a long head, overhanging and drooping ears, very long bodies but narrow in proportion to the length. They are therefore flat sided, and the hind quarters usually droop.

They do not come early to maturity, and they are therefore usually kept till they attain their full growth; they then attain a large size, and are specially suitable for curing as bacon and large hams.

MIDDLE SIZED WHITE.

These have no doubt been produced by a cross between the large and small white breeds; they possess many of the good qualities of each breed, and are very useful.

They combine aptitude to fatten quickly, having plenty of flesh without coarseness, and hardiness of constitution. They are good breeders, being more prolific than the small white breed, and they are good mothers.

They vary a good deal in characteristics, sometimes approaching the large and sometimes the small varieties, and may be said to be more fitted for bacon than for pork.

SMALL WHITE.

This breed differs from the large white in many respects.

These animals have very short noses, slightly turned up, their ears are sharp and project forward, and may be termed "prick-ears."

The body is covered with curly white hair, which is usually rather long, but in some cases it is thick and short. This breed, however, is generally rather delicate in constitution and will not bear exposure.

The shoulders very wide and full, the back straight, the tail is set on high, the legs are deep and square. The bone is fine, the carcass is thick, compact, and very symmetrical. The small white breed possess a wonderful aptitude to fatten, so much so that the eyes often are almost hidden, but there is an undue proportion of fat in comparison with the lean; this breed, however, is extremely useful for crossing with larger and coarser varieties of pigs, and they generally improve the quality. Its early maturity makes it a breed specially adapted for dairy farms and for killing as small "pork."

SUFFOLK.

These pigs are of a small breed, well coated with long soft hair, the abundance of which indicates that they possess good constitution. The nose and ears are short, the shoulders are excellent, the back is straight, the tail is set on high, and the general form is that of a parallelogram and is very symmetrical. The skin is not apt to crack as in some breeds.

They possess great aptitude to fatten.

DORSET.

This is a black breed, showing a great resemblance to the Neapolitan. No doubt it originated from a cross with the Neapolitan and other black breeds.

These pigs are deficient in hair; their skin is dark; they are very handsome, thick, wide, and symmetrical, and they possess a great aptitude to fatten.

Their ears point forward, their noses and legs are short, and the animals are usually very handsome.

IMPROVED ESSEX.

There is a great similarity between the Essex and Dorset breeds, both evidently possessing a good deal of the Neapolitan blood. The Essex have rather longer heads with straighter noses. Their aptitude to fatten is excessive. They are extremely handsome in every respect.

IRISH.

The native pigs of Ireland are a large kind, with coarse bones, very hardy, and thriving well on scanty food. The ears large and long, strong hair; some are white, some black and white, and some spotted, but of late they have been very greatly improved by crossing with Berkshires and other varieties, and a large number of useful animals resulted, thus a vast amount of cheap and useful food has been produced.

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**AGENCE GÉNÉRALE DE LA CHAMBRE DE COMMERCE DE
PARIS À L'EXPOSITION UNIVERSELLE DE 1878,**

AU CHAMP DE MARS ET AU TROCADÉRO.

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Certifié conforme.

Le Directeur délégué de la Chambre de Commerce
de Paris à la Douane centrale,

(Signé) MORENO-HENRIQUES.

Paris, le 16 Février 1878.



SUBJECT INDEX OF THE EXHIBITS.

(WORKS OF ART AND LIVE STOCK ARE NOT INCLUDED.)

AERATED WATERS. See under **BEVERAGES** and under **CHEMICAL PRODUCTS**.

AGRICULTURAL MACHINERY.

(*Vide Official Catalogue, Part II., p. 218.*)

- I.—**IMPLEMENTS AND MACHINES FOR THE PREPARATION OF THE SOIL.**
- II.—**IMPLEMENTS AND MACHINES FOR SOWING THE LAND AND CULTIVATING CROPS**
- III.—**MACHINES FOR HARVESTING CROPS.**
- IV.—**MACHINES FOR PREPARING CROPS FOR MARKET, AND FOR FOOD FOR ANIMALS.**
- V.—**MISCELLANEOUS.**
- VI.—**MACHINES FOR SPECIAL OR FOREIGN PRODUCE.**

AGRICULTURAL MACHINERY.

I.—**IMPLEMENTS AND MACHINES FOR THE PREPARATION OF THE SOIL.**

Cultivators.

In model.

Cultivators for hops.

**Drags, grubbers, and
scufflers.**

**Drainage apparatus
(drain rods).**

Harrows.

(a.) Steam.

(b.) Ordinary.

(c.) Chain.

(d.) Harrows in
model.

Ploughs (steam).

**Anchors for (in
model).**

Ploughs (ordinary).

In model.

Ploughshares.

Pulverisers.

Coleman & Morton.

Fowler, John, & Co.

Howard, James & Frederick.

Howard, James & Frederick.

Coleman & Morton.

Rainforth, William, & Sons.

Reid, Benjamin, & Co.

Howard, James & Frederick.

Ball, William, & Son.

Fowler, John, & Co.

Howard, James & Frederick.

Rainforth, William, & Sons.

Denton, Henry.

Howard, James & Frederick.

Barford & Perkins.

Fowler, John, & Co.

Howard, James and Frederick.

Howard, James & Frederick.

Ball, William, & Son.

Fison, J. P.

Hornsby, Richard, & Sons.

Howard, James & Frederick.

Ransomes, Sims, & Head.

Reid, Benjamin, & Co.

Howard, James & Frederick.

Coleman & Morton.

Dunston Engine Works Co.

AGRICULTURAL MACHINERY—*cont.*I.—IMPLEMENTS AND MACHINES FOR THE PREPARATION OF THE SOIL—*cont.*

Rollers.

(a.) Steam (for roads).

(b.) Water ballast.

Cylinders for rollers.

Scarifiers.

(a.) Steam.

(b.) Ordinary.

Barford & Perkins.
Aveling & Porter.Barford & Perkins.
Denton, Henry.

Howard, James & Frederick.

Ball, William, & Sons.
Coleman & Morton.

II.—IMPLEMENTS AND MACHINES FOR SOWING THE LAND AND CULTIVATING CROPS.

An assortment (miscellaneous).

Bone slicers, and bone crushers and grinders, &c.

Drills and grain sowers.

(a.) Ordinary drills.

(b.) Compound grain and manure drills.

(c.) General purpose drills.

(d.) Hand drills.

(e.) Root drills.

Hoes.

Hop syringers.

Manure distributors and manure drills.

Liquid manure distributors.

Turnip thinners.

Corbett & Peele.

Bradford, Thomas, & Co.
Dunston Engine Works Co.
Savill Street Foundry and Engineering Co.

Corbett & Peele.

Coultas, James.

Garrett, Richard, & Sons.

Gilbert, William.

Holmes & Son.

Kell, Meats, & Co.

Rainforth, William, & Sons.

Reid, Benjamin, & Co.

Smyth, James, & Sons.

Woolnough, W. & C., & Co.

Coultas, James.

Woolnough, W. & C., & Co.

Woolnough, W. & C., & Co.

Gilbert, William.

Le Butt, Josiah.

Holmes & Son.

Ball, William, & Son.

Carson & Toone.

Garrett, Richard, & Sons.

Mote, Fordham.

Smith, William, & Son.

Woolnough, W. & C., & Co.

Coleman & Morton.

Coultas, James.

Davey, Paxman, & Co.

Garrett, Richard, & Sons.

Holmes & Son.

Smyth, James, & Sons.

Woolnough, W. & C., & Co.

Baker, Thomas.

Holmes & Son.

Smith, William, & Son.

AGRICULTURAL MACHINERY—cont.**III.—MACHINES FOR HARVESTING CROPS.**

An assortment of miscellaneous machines.
Gathering rakes.

Haymaking machines.

In model.

Hay rakes.

In model.

Mowing machines.

In model.

Mowing and reaping combined.

Cutter bar for same.

Potato diggers.

Reaping and harvesting machines.

In model.

Reaping and binding combined.

Vices for reaping knives.

Corbett & Peele.

Hornsby, Richard, & Sons.
Howard, James & Frederick.
Riches & Watts.

Howard, James & Frederick.
Jeffery & Blackstone.
Le Butt, Josiah.
Nicholson, William Newzam & Son
Ransomes, Sims, & Head.
Boby, Robert.

Howard, James & Frederick.
Jeffery & Blackstone.
Nicholson, William Newzam, & Son.
Picksley, Sims, & Co., Limited.
Ransomes, Sims, & Head.
Riches & Watts.
Boby, Robert.

Bamlett, Adam Carlisle.
Harrison, McGregor, & Co.
Hornsby, Richard, & Sons.
Howard, James & Frederick.
Lowcock & Barr.
Samuelson & Co.
Howard, James & Frederick.

Bamlett, Adam Carlisle.
Burgess & Key.
Harrison, McGregor, & Co.
Hornsby, Richard, & Sons.
Kearsley, George.
Picksley, Sims, & Co., Limited.
Burgess & Key.

Penney & Co., Limited.

Aveling & Porter.
Bamlett, Adam Carlisle.
Burgess & Key.
Harrison, McGregor, & Co.
Hornsby, Richard, & Sons.
Howard, James & Frederick.
Kearsley, George.
Loader, Caleb.
Picksley, Sims, & Co., Limited.
Ruston, Proctor, & Co.
Samuelson & Co.
Howard, James & Frederick.

Howard, James & Frederick.
Kearsley, George.
Neale, Melville Thomson.

Denton, Henry.

AGRICULTURAL MACHINERY—cont.

IV.—MACHINES FOR PREPARING CROPS FOR MARKET AND FOR FOOD FOR ANIMALS Engines.

General Purpose Engine.	Barrows & Stewart.
Fixed.	Buchanan, G., & Co.
Stationary.	Riches & Watts.
Horizontal.	Howard, James & Frederick.
	Ransomes, Sims, and Head.
	Clayton & Shuttleworth.
	Davey, Paxman, & Co.
	Duvalion & Lloyd.
	Ruston, Proctor, & Co.
	Woods, Cocksedge, & Co.
Horizontal condensing	Marshall, Sons, & Co., Limited.
Horizontal fixed.	Turner, E. R. & F.
	Tuxford & Sons.
Horizontal stationary.	Marshall, Sons, & Co., Limited.
Locomotive.	Loader, Caleb.
	McLaren, John & Henry.
Locomotive crane.	Aveling & Porter.
Locomotive hauling.	Aveling & Porter.
Locomotive reaping.	Aveling & Porter.
Locomotive for steam ploughing.	Aveling & Porter.
Locomotive thrashing.	Aveling & Porter.
Portable.	Clayton & Shuttleworth.
	Davey, Paxman, & Co.
	Garrett, Richard, & Sons.
	Holmes & Son.
	Hornsby, Richard, & Son.
	Humphries, Edward.
	Marshall, Sons, & Co., Limited.
	Ransomes, Sims, & Head.
	Ruston, Proctor, & Co.
	Turner, E. R. & F.
	Tuxford & Sons.
Portable fixture.	Clayton & Shuttleworth.
Portable irrigating.	Marshall, Sons, & Co., Limited.
Semi-portable.	Fowler, John, & Co.
Traction.	Clayton & Shuttleworth.
	Fowler, John, & Co.
	Garrett, Richard, & Sons.
	Marshall, Sons, & Co., Limited.
	Ransomes, Sims, & Head.
	Ruston, Proctor, & Co.
	Davey, Paxman, & Co.
	Duvalion & Lloyd.
	Jeffery & Blackstone.
	Humphries, Edward.
	Maldon Iron Works Co., Limited.
	Riches & Watts.
	Ruston, Proctor, & Co.
	Turner, E. R. & F.
	Woods, Cocksedge, & Co.
Vertical fixed.	Hindley, Edmund Samuel.
	Nicholson, William Newsam, & Son.
Vertical portable.	Fison, J. P.
	Hindley, Edmund Samuel.
	Nicholson, William Newsam, & Son.
Vertical stationary.	Marshall, Sons, & Co., Limited.

AGRICULTURAL MACHINERY—cont.**IV.—MACHINES FOR PREPARING CROPS FOR MARKET AND FOR FOOD FOR ANIMALS—cont.****Boilers.**In model.
Waterheaters for.**Horse gears.****Bullock gears.***Miscellaneous.*

Improved whipple-trees.

An assortment of machines (various).

Barley havellers.**Bean and oat mills.****Chaff cutters and straw choppers.****Corn crushers and crushing and grinding mills.****Corn dressers, seed dressers, and winnowing machines.**Hartley & Sugden.
Lumby, Edwin.
Coleman & Morton.
Davey, Paxman, & Co.Denton, Henry.
Hunt & Tawell.
Maldon Iron Works Co., Limited.
Nicholson, William Newzam, & Son.
Richmond & Chandler.
Wilder, John.
Woods, Cocksedge, & Co.

Corcoran, Witt, & Co.

Coleman & Moreton.

Corbett & Peele.
Nicholson, William Newzam, & Son.

Boby, Robert.

Hunt & Tawell.

Bentall, Edward Hammond, & Co.
Crowley, John & Co.
Garrett, Richard, & Sons.
Hunt & Tawell.
Jeffery & Blackstone.
Lowcock & Barr.
Maldon Iron Works Co., Limited.
Pickaley, Sims, & Co., Limited.
Ransomes, Sims, & Head.
Richmond & Chandler.
Wilder, John.Barford & Perkins.
Bentall, Edward Hammond, & Co.
Carter, J. Harrison.
Clayton & Shuttleworth.
Corcoran, Witt, & Co.
Lloyd, Thomas, & Sons.
Maldon Iron Works Co., Limited.
Marshall, Sons, & Co., Limited.
Nicholson, William Newzam, & Son.
Pickaley, Sims, & Co., Limited.
Ransomes, Sims, & Head.
Riches & Watts.
Richmond & Chandler.
Ruston, Proctor, & Co.
Turner, E. R. & F.
Woods, Cocksedge, & Co.
Woolnough, W. & C., & Co.Baker, John.
Boby, Robert.
Dell, William R., & Son.

AGRICULTURAL MACHINERY—*cont.*
IV.—MACHINES FOR PREPARING CROPS FOR MARKET AND FOR FOOD FOR ANIMALS—*cont.*

Corn dressers, seed
dressers, and win-
nowing machines—
cont.

Corn drying machines
and kilns.

Finishers (combined
with thrashers).

Flour dressers and meal
sifters.

Kibbling mills.

Malt screens.

Middling duster.

Oil cake breakers.

Oil cake mills.

Potato separators.

Pulpers and graters.

Screens, corn screens,
oat screens, &c.

Garrett, Richard, & Sons.
Holmes & Son.
Hornsby, Richard, & Sons.
Maldon Iron Works Co., Limited.
Marshall, Sons, & Co., Limited.
Rainforth, William, & Sons.
Reid, Benjamin, & Co.

Davey, Paxman, & Co.
Corcoran, Witt, & Co.

Davey, Paxman, & Co.
Holmes & Son.
Hornsby, Richard, & Sons.
Humphries, Edward.
Marshall, Sons, & Co., Limited.
Ruston, Proctor, & Co.

Barford & Perkins.
Carter, J. Harrison.
Corcoran, Witt, & Co.
Dell, William R., & Son.
Lloyd, Thomas, & Sons.
Riches & Watts.
Walworth, James, & Co.

Bentall, William Hammond, & Co.
Maldon Iron Works Co., Limited.
Turner, E. R. & F.

Le Butt, Josiah.
Corcoran, Witt, & Co.

Walworth, James, & Co.

Hunt & Tawell.
Nicholson, William Newzam, &
Son.
Woods, Cocksedge, & Co.

Barford & Perkins.
Bentall, William Hammond, & Co.
Maldon Iron Works Co., Limited.
Picksley, Sims, & Co., Limited.

Penney & Co., Limited.

Bentall, William Hammond, & Co.
Hunt and Tawell.
Maldon Iron Works Co., Limited.
Picksley, Sims, & Co.
Richmond & Chandler.
Woods, Cocksedge, & Co.

Boby, Robert.
Coleman & Morton.
Hornsby, Richard, & Sons.
Le Butt, Josiah.
Penney & Co., Limited.

AGRICULTURAL MACHINERY—cont.**IV.—MACHINES FOR PREPARING CROPS FOR MARKET AND FOR FOOD FOR ANIMALS—cont.**

Screens, corn screens,
oat screens, &c.—
cont.

Seed crushers.

Seed shellers.

Shakers.

Stacking machinery and
straw elevators.

Combined elevators
and stackers.

Horse elevators.

Steaming apparatus.

Thrashing machines.

Thrashing machines
combined with finish-
ers.

Drum beaters for.
Drum guard and fen-
der for.
Finishing screen (ad-
justable) for.

Thrashing machines,
hand-power.
Turnip cutters and
root slicers.

Winnowing machines.

In model.

Rainforth, William, & Sons.
Stidolf and Aggio.
Walworth, James, & Co.

Maldon Iron Works Co., Limited.

Holmes & Son.

Hornsby, Richard, & Sons.

Garrett, Richard, & Sons.
Marshall, Sons, & Co., Limited.
Ruston, Proctor, & Co.
Coleman & Morton.

Barford & Perkins.
Richmond & Chandler.

Clayton & Shuttleworth.
Garrett, Richard, & Son.
Maldon Iron Works Co., Limited.
Ransomes, Sims, & Head.
Reid, Benjamin, & Co.
Turner, E. R., & Co.

Davey, Paxman, & Co.
Holmes & Son.
Hornsby, Richard, & Sons.
Humphries, Edward.
Marshall, Sons, & Co., Limited.
Ruston, Proctor, & Co.
Nottingham Iron Co., Limited.
Fison, J. P.

Penney & Co., Limited.

Hunt & Tawell.

Bentall, William Hammond, & Co.
Maldon Iron Works Co., Limited.
Picksley, Sims, & Co., Limited.
Woods, Cocksedge, & Co.

Rainforth, William, & Sons.
Reid, Benjamin, & Co.

Boby, Robert.

V.—MISCELLANEOUS.

An assortment (va-
rious).

An assortment for
cheese preparation.

Butter washers.

Follows and Pate.

Corbett & Peele.

Hancock, F. & C.

AGRICULTURAL MACHINERY—*cont.*V.—MISCELLANEOUS—*cont.*

Carts and waggons.

Cart for liquid manure.

Cart for water.

Hand water-carts.

Cheese pressers.

Cheese vats.

Churns.

Corn measurers and
corn and sack
weighers.

Hop filters.

Pumps.

Pumps, irrigating.

Pumps, liquid manure.

Universal mills.

Ball, William, & Son.
Coleman & Morton.Baker, Thomas.
Coleman & Morton.Baker, Thomas.
Coleman & Morton.
Coleman & Morton.Carson & Toone.
Loweck & Barr.

Carson & Toone.

Bradford, Thomas, & Co.
Eastwood, James, & Co.Baxter, William Henry.
Corcoran, Witt, & Co.
Reid, Benjamin, & Co.

Lawrence & Co.

Turner, Frederick William.

Lawrence & Porter.

Baker, Thomas.

Riches & Watts.

VI.—MACHINES FOR SPECIAL OR FOREIGN PRODUCE.

Cane crushers and
cane mills.

Evaporator.

Cider presses.

Coffee purifiers.

Coffee sizing machine.

Cocoa machinery.

Mustard machines.

Rice machines.

Starch machines.

Tea rolling machines.

Tobacco dressers.

Buchanan, G., & Co.
Stewart (Duncan) & Co.
Buchanan, G., & Co.

Ladd, John H., & Co.

Corcoran, Witt, & Co.
Stafford, Samuel.

Penney & Co., Limited.

Corcoran, Witt, & Co.

Colman, J. & J.
Corcoran, Witt, & Co.

Corcoran, Witt, & Co.

Corcoran, Witt, & Co.

Marshall, Sons, & Co., Limited.

Meadow Foundry Co., Limited.

SUPPLEMENT.

MANURES, CATTLE FOOD, AGRICULTURAL SEEDS, &C.

MANURES.

Manures.

	Cook, Edward, & Co. Farmer, Thomas, & Co. Morris & Griffin. Nitro-phosphate & Odams Chemical Manure Co., Limited. Purser, Edward, & Co. Hall, A. W., & Co.
For special crops (classified). Ammonic Fimus. Bone.	Scott's Sewage Co., Limited. Cook, Edward, & Co. Farmer, Thomas, & Co. Goulding, W. & H. M. Farmer, Thomas, & Co. Gibbs, James, & Co. Hall, A. W., & Co. Burnard, Lack, & Alger.
Dissolved bones.	
"Dissolved bone ma- "nure and super- "phosphate of lime."	
Ground bones. "The concentrated."	Hall, A. W., & Co. Burnard, Lack, & Alger.
Corn manure.	Goulding, W. & H. M. Hall, A. W., & Co. Farmer, Thomas, & Co. Gibbs, James, & Co.
Guanos.	
Guano (ammonia fixed).	Burnard, Lack, & Alger.
Guano (ammonia fixed soluble).	
"Guano anglais."	Hall, A. W., & Co.
Guano (dissolved). (Hop manures).	Ohlendorff & Co. Morris & Griffin.
Nitro - concentrated manure.	Hall, A. W., & Co.
"Phosphates" (raw).	Burnard, Lack, & Alger.
Potash manures.	Packard, Edward, & Co.
"Sulphuric acid."	Burnard, Lack, & Alger. Gibbs, James, & Co.
Superphosphate.	Packard, Edward, & Co.
Superphosphate (bone).	Hall, A. W., & Co.
Superphosphate (of lime).	Farmer, Thomas, & Co. Gibbs, James, & Co. Goulding, W. & H. M. Hall, A. W., & Co.
Vine manure.	Goulding, W. & H. M. Hall, A. W., & Co.

MATERIALS FOR MANUFACTURING MANURES.

Materials for manu-
facturing.

Burnard, Lack, & Alger. Farmer, Thomas, & Co. Goulding, W. & H. M. Morris & Griffin. Nitro-phosphate & Odams Chemical Manure Co., Limited. Ohlendorff & Co. Packard, Edward, & Co. Purser, Edward, & Co.

SUPPLEMENT—cont.**CATTLE FOOD.**

Food for cattle.

(Cake only).

Thorley's (J. W.) Cattle Food Co.,
Limited.
Hollington, Joseph.
Draper, John.
Gibbs, James, & Co.
Sevin, Charles.

AGRICULTURAL SEEDS.

Agricultural seeds.

Carter, James, Dunnett, & Beale.
Sutton & Sons.
Webb, Edward, & Sons.

FARMERS' MISCELLANIES.

Castings for agricultural
machines.
Cattle troughs.

Corn bins.

Cow-house fittings.

Farm buildings (plans
for).Knives for agricultural
machines.

Poultry feeders.

Sheep-fold, automatic
creeps for.Sheep shearing appa-
ratus.Sheep shearing ma-
chine.

Wagon sheets.

Crowley, John, & Co.

Burney & Co.

Burney & Co.

Musgrave & Co., Limited.

McLaren, John & Henry.

Colver Brothers.
Fussell, James, Sons, & Co.

Le Butt, Josiah.

Carson & Toone.

Clark, William.

Wilson, Newton, & Co.

Macintosh, Charles, & Co.

ALES. See under **BEVERAGES.****ALIMENTARY PRODUCTS.** See also **BEVERAGES.**

Army food.

Baking powders.

Barley.

Barley, preparations
from.

Whitehead & Co., Limited.

Christie & Co.
Edmunds & Cater.
Glover & Co.
Hemingway, S., & Co.
Twelveteas, Harper, & Son.
Parkinson Brothers.

Chapman, Mark, & Co.
Grant, John.
Keen, Robinson, Bellville, & Co.
Mumford, Peter, & Son.

Keen, Robinson, Bellville, & Co.

ALIMENTARY PRODUCTS—cont.**Biscuits.**

Barr, P. W., & Co.
 Chapman, Mark, & Co.
 Huntley & Palmer.
 Middlemass, Robert.
 Peek, Frean, & Co.
 Romary, Alfred.
 Spratt's Patent Biscuit Co.
 Stevens, Thomas.
 Walker, John.

Bran.

Chapman, Mark, & Co.

Bread.

Chapman, Mark, & Co.

Buns.

Wilson, Thomas.

Butter.

Clanchy, Timothy J.
 Watts, John Isaac.

Caffeine.

Dunn & Hewett.

Cakes.

Allen, Frederick, & Sons.
 Stevens, Thomas.
 Wilson, Thomas.

Cheese.

Stafford Sons, & Oswin.
 Watts, John Isaac.

Chocolate.

Dunn & Hewett.
 Fry, Joseph Storrs, & Sons.
 Menier, Emile.

Chutneys.

Dickinson Brothers & Co.
 Green & Stenbridge.

Cocoa.

Dunn & Hewett.
 Fry, Joseph Storrs, & Sons.
 Menier, Emile.

Coffee.

Curr, Thomas.
 Dunn & Hewett.
 Fondclair Brothers (Indian Section).

Condiments.

Patchitt, E. C.

Confectionery.

Allen, Frederick, & Sons.
 Callard & Bowser.
 Fry, Joseph Storrs, & Sons.
 Stevens, Thomas.

**Colours for confection-
ery.**

Bush, W. John, & Co.

Corn.

Hollington, Joseph.
 Mumford, Peter, & Sons.

Corn-flour.

Colman, J. & J.

Curries.

Halford, James Valentine.

Curry powders.

Batty & Co.

ALIMENTARY PRODUCTS—*cont.*Curry powders—*cont.*

Eggs.

Essences of coffee.

Essence of fruit.

Essences.

Fish, dried.

Flour.

Food, concentrated.

Food for cattle (generally).

Food for cats.

Food for dogs.

Food for pigs.

Food for poultry.

Gelatine.

Gluten and fibre.

Grains without husk.

Groats.

Iceland moss.

Isinglass.

Jams.

Edmunds & Cater.
Green & Stembridge.

Watts, John Isaac.

Curr, Thomas.
Dunn & Hewett.
Yuille, Andrew.

Bush, W. J., & Co.

Mackay, John, & Co.
Moir, John, & Sons.
Yuille, Andrew.

Knowles, J. & G.

Chapman, Mark, & Co.
Mumford, Peter, & Sons.
Mumford, Peter, jun.
Richards & Co.

Geyelin & Co.

Hollington, Joseph.
Sevin, Charles.
Thorley's (J. W.) Cattle Food Co.,
Limited.
Spratt's Patent Biscuit Co.Barr, P. W., & Co.
Clarke, W. G.
Spratt's Patent Biscuit Co.
Whitehead & Co., Limited.

Spratt's Patent Biscuit Co.

Barr, P. W., & Co.
Chamberlin, James.
Clarke, W. G.
Spratt's Patent Biscuit Co.
Whitehead & Co., Limited.

Green, John.

Berger, Samuel, & Co.

Chapman, Mark, & Co.

Grant, John.
Keen, Robinson, Bellville, & Co.
Mumford, Peter, & Son.

Dunn & Hewett.

Wigan, Henry, & Co.

Barnes & Co.
Batty & Co.

ALIMENTARY PRODUCTS—cont.**Jams—cont.**

Jellies.

Lentils.

Linseed.

Lozenges.

Malt.

Marmalade.

Meat essences.

Meat lozenges.

Medical food.

Milk.

Milk, condensed.

Milk, essence of.

Milk, preparations of.

Mustard.

Oatena.

Oaten flour.

Oatmeals.

Oatmeal cakes.

Crosse & Blackwell.
Moir, John, & Sons.Barnes & Co.
Batty & Co.
Brand & Co.
Crosse & Blackwell.
Dickinson Brothers & Co.
Green & Stembridge.

Chapman, Mark, & Co.

Mumford, Peter, & Son.

Maw, Thomas.

Hollington, Joseph.
Stanbridge, S., & Co.Barnes & Co.
Batty & Co.
Moir, John, & Sons.Brand & Co.
Schneider, Edward Albert.
Whitehead & Co., Limited.

Brand & Co.

Chapman, Mark, & Co.

Watts, John Isaac.

Hooker, J.
Watts, John Isaac.

Yuille, Andrew.

Hooker's Cream-Milk Co., Limited.

Barringer & Brown.
Batty & Co.
Colman, J. & J.
Keen, Robinson, Bellville, & Co.

Wilson, Thomas.

Walker, John.

Grant, John.
Keen, Robinson, Bellville, & Co.
Mumford, Peter, & Sons.
Snodgrass, James.
Thomson, James, & Sons.
Walker, John.
Wilson, Thomas.Thomson, James, & Sons.
Walker, John.
Wilson, Thomas.

ALIMENTARY PRODUCTS—*cont.*

Oats.

Oats, preparations from.

Pea flower.

Peas.

Pickles.

Potted meats.

Preserved fish.

Preserved fruits.

Preserved meats.

Preserved vegetables.

Preserves.

Rice.

Rice flour.

Sauces.

Walker, John.

Keen, Robinson, Bellville, & Co.

Mumford, Peter, & Son.
Snodgrass, Jamea.

Mumford, Peter, & Son.

Barnes & Co.
Batty & Co.
Crosse & Blackwell.
Dickinson Brothers & Co.
Green & Stembridge.
Maw, Thomas.
Moir, John, & Sons.
Patchitt, E. C.Barnes & Co.
Batty & Co.
Moir, John, & Sons.Knowles, J. & G.
Moir, John, & Sons.
Perry, W. T. L.
Tallerman, Daniel.
Taylor, James.Barnes & Co.
Crosse & Blackwell.
Green & Stembridge.
Tallerman, Daniel.Barnes & Co.
Brand & Co.
Crosse & Blackwell.
Halford, James V.
Lindemann, Adalbert C.
McCall, John, & Co.
Moir, John, & Son.
Tallerman, Daniel.Crosse & Blackwell.
McCall, John, & Co.
Moir, John, & Son.
Tallerman, Daniel.
Whitehead & Co.

Green & Stembridge.

Berger, Samuel, & Co.

Chapman, Mark, & Co.

Ball, James.
Barnes & Co.
Batty & Co.
Crosse & Blackwell.

ALIMENTARY PRODUCTS—cont.**Sauces—cont.**

Green & Stembridge.
Maw, Thomas.
Moir, John.
Patchitt, E. C.
Pratt, James.
Yuille, Andrew.

Shortbread.

Wilson, Thomas.

Soups.

Brand & Co.
Moir, John, & Sons.
Schneider, Edward Albert.
Whitehead & Co., Limited.

Spices.

Mumford, Peter, & Son.
Yuille, Andrew.

Starch.

Berger, Samuel, & Co.
Chapman, Mark, & Co.
Colman, J. & J.
James, E., & Sons.
Jones, Orlando, & Co.
Parsons, Fletcher, & Co.

Sugars.

Callard & Bowser.

Syrups.

Barnes & Co.

Vinegar.

Crosse & Blackwell.
Maw, Thomas.
Yuille, Andrew.

Wheat.

Chapman, Mark, & Co.

AMMUNITION. See SPORTING GUNS AND AMMUNITION; and see also under MILITARY APPARATUS.

ARCHITECTURE AND BUILDING. For Fire Clays and Fire Bricks, see under FIRE BRICKS; and for Potter's and Vitreous Clays, under CERAMICS.

I.—BUILDING MATERIALS.**II.—BUILDINGS AND PARTS OF BUILDINGS.****III.—INTERNAL FITTINGS AND MISCELLANEOUS ACCESSORIES.****I.—BUILDING MATERIALS.****Sand.**

Abernant Iron Works & Collieries Co.
Pictor & Sons.

Stone (Bath stone).

Beasbrook Granite Co.
Campbell, Hugh, & Son.

Granite.

Hunter, James.
MacDonald, Alex., Field, & Co.
Peterhead Granite Polishing Co., Limited.

Granite (polished).

Tamar and Kit Hill Granite Co., Limited.
Western & Co.

Stone moulding and planing machine.

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ARCHITECTURE AND BUILDING—*cont.*I.—BUILDING MATERIALS—*cont.*

Pulley blocks. (See
also under HYDRAU-
LICS.)

Slates (roofing).

Slates (roofing and
slabs).

Timber, creosoted.

Timber, method of pre-
serving and season-
ing.

Gypsum.

Plaster of Paris.

Casting plaster (a spe-
cimen of work in).
Cement.

Cement (fire clay).

Cement (Keene's).

Cement (parian).

Cement (Portland).

Cement (Portland),
specimens of con-
crete formed from.

Cement (Portland),
materials for making.

Cement (Roman).

Cement (selenitic).

Cement (made from
sewage).

Cement (waterproof).

Cement testing appa-
ratus.

Head, Wrightson, & Co.

Cwmorthin Slate Co., Limited.
Kinsman, Rev. Prebendary.

Pen-yr-orsedd Slate Quarry Co.,
Limited.

Bethell, John, & Co.

Gardner, A., & Son.

Baxter, Robert Cordy.

Baxter, Robert Cordy.

Thomlinson & Salkeld.

Abernant Iron Works & Collieries
Co.

Gibbons, B., jun.

Lavers, Alfred Hamilton.
McLean & Co.
Thomlinson & Salkeld.

Baxter, Robert Cordy.
Francis & Co.
Lavers, Alfred Hamilton.
McLean & Co.

Burgh Castle Portland Cement Co.,
Limited.

Francis & Co.
Hollick & Co.
Johnson, I. C., & Co.
Lavers, Alfred Hamilton.
Scott's Sewage Co., Limited.
Wouldham Cement Co.

Hollick & Co.

Wouldham Cement Co.

Lavers, Alfred Hamilton.

Patent Selenitic Cement Co., Li-
mited.

Scott's Sewage Co., Limited.

Smartt, Walter.

De Michele, Vitale Domenico.
Lavers, Alfred Hamilton.

ARCHITECTURE AND BUILDING—cont.**BUILDING MATERIALS—cont.****Concrete.**

Concrete slabs (for walls, roofs, and floors, shown *in situ*).

Bricks of concrete (*in situ* in the Jury House in the Grand Avenue).

Masonry blocks.

Terra-cotta (architectural).

Bricks.

Bricks (stoneware).

Bricks (vitrified).

Burrs.**Copings.****Tiles.**

Tiles (channel).

Tiles (flooring).

Tiles (paving).

Tiles ("plain tiles").

Tiles (ridge).

Tiles (roofing).

Patent Selenitic Cement Co., Limited.

Lascelles, William Henry.

Lascelles, William Henry.

Horn, Thomas Story.

Doulton, H., & Co.

Stiff, James, & Sons.

Wood & Ivory, Limited.

Brooke, Edward, & Sons.

Burgh Castle Portland Cement Co., Limited.

Campbell Brick and Tile Co.

Candy & Co.

Cliff, Joseph, & Sons.

Dunball Steam Pottery Tile and Brick Co.

Gibbons, B., jun.

Hamblet, Joseph.

Candy & Co.

Finch, John.

Plymouth Fire Clay Co.

Wood & Ivory, Limited.

Gibbons, B., jun.

Hamblet, Joseph.

Wood & Ivory, Limited.

Cliff, Joseph, & Sons.

Gibbons, B., jun.

Hamblet, Joseph.

Dunball Steam Pottery Tile Brick Co.

Lascelles, William Henry.

Candy & Co.

Lascelles, William Henry.

Cubitt, William, & Co.

Brownhills Pottery Co.

Colthurst, Symons, & Co.

Campbell Brick and Tile Co.

Candy & Co.

Colthurst, Symons, & Co.

Dunball Steam Pottery Tile Brick Co.

ARCHITECTURE AND BUILDING—*cont.*

I.—BUILDING MATERIALS—*cont.*

Tiles (under cut).

Pavements (composite carriage and foot way).

Pavements (ornamented).

Paving.

Paving bricks.

Paving bricks and paving blocks.
Stoneware.

Blue metallic wares.

Fire standing goods.

Felt (for lining damp walls).

Felt (roofing and flooring felt).

II.—BUILDINGS AND PARTS OF BUILDINGS.

House for the use of the Royal Commission.

House of brick and terra cotta, forming part of International Façade.

House.

Cottages, of concrete slabs.

Stable.

Buildings (in drawing).

Windows (in lead work).

Window sashes.

Window (noiseless sash), in model.

Window sash fasteners (in model).

Shop fronts.

Shutters (revolving).

Shutters (self-coiling).

Chimney cowl, &c.

Chimney tops (terra-cotta).

Tice, William.

Grant, Robert.

Grant, Robert.

Hamblet, Joseph.
Wood & Ivory, Limited.

Plymouth Fire Clay Co.

Candy & Co.

Doulton & Watta.

Doulton & Co.

Doulton & Co.

Anderson, David, & Son.

Anderson, David, & Son.

Cubitt, William, & Co.

Doulton & Co.

Collinson & Lock.

Lascelles, William Henry.

Lascelles, William Henry.

Cliff, Joseph, & Sons.

Cubitt, William, & Co.

Edwards, George.

Bullivant, Thomas.

Edwards, George.

Clark & Co.

Salmon, Barnes, & Co.

Clark & Co.

Boyle, Robert, & Son.

Cliff, Joseph, & Sons.

ARCHITECTURE AND BUILDING—cont.**II.—BUILDINGS AND PARTS OF BUILDINGS—cont.**

Ceilings. (method of
forming ceilings in
plaster).
Door knockers.

Hitchins, Richard William.

Green, Charles.

III.—INTERNAL FITTINGS AND MISCELLANEOUS ACCESSORIES.

Bath.

Finch, John.
Smeaton, William, & Sons.

Baths (in model).

Smeaton, William, & Sons.

Bath fittings.

Wright, Sutcliffe, & Son.

Bath room appliances.

Jennings, George.

Lavatory.

Lamprey, J. H.

Lavatory (self-acting).

Blundell, George Thomas & James
Walter.

Lavatory (apparatus
and fittings).

Smeaton, William, & Sons.
Wright, Sutcliffe, & Son.

Sinks.

Finch, John.

Sink stones (terra-
cotta).

Cliff, Joseph, & Sons.

Waterclosets.

Blundell, George Thomas & James
Walter.

Martin, William.
Smeaton, William, & Sons.
Stone, J., & Co.

Watercloset appli-
ances.

Jennings, George.

Ventilators.

Bell, J. M., & Co.
Boyle, Robert, & Son.
Follows & Bate.
Hamilton, James.
Howorth, James.
Loewenthal, Leopold.
Verity Brothers.

Safes and strong rooms.

Chatwood, Samuel.
Chubb & Son.
Hobbs, Hart, & Co.
Neville, Jackson.
White, William George.
Sicker Safe & Strong Room Co.,
Limited.

Locks.

Chatwood, Samuel.
Chubb & Son.
Hobbs, Hart, & Co.

Lock-up boxes (for
cash, papers, deeds,
&c.).

Chubb & Son.

ARCHITECTURE AND BUILDING—*cont.*III.—INTERNAL FITTINGS AND MISCELLANEOUS ACCESSORIES—*cont.*

Gates (entrance gates).

Bainbridge & Grimson.
Barnard, Bishop, & Barnards.
Cubitt, William, & Co.
Hill & Smith.

Palisade.

Barnard, Bishop, & Barnards.

ART CASTINGS. See under BRONZES.

ART METAL WORK. See under BRONZES.

ART SCHOOLS (including Designs generally).

Art schools.

Illustrations of instruction in.

South Kensington Museum.

Alabaster statue.

Hems, Harry.

Casts in plaster of Paris.

Baxter, Robert Cordy.

Three Graces.

A plaster group.

Thomlinson & Salkeld.

Designs.

Design for the pavilion for H.R.H. the President of the Royal Commission.

Redgrave, Gilbert R.

For heraldic painting.

Shepperd, William Henry.

For a shield.

Watkins, John.

For church window.

Holt, Frank.

For illuminated clock.

Brooks, Robert.

For dining room decorations.

Green, James.

For carpets.

Poole, Edward.

For walls.

Laurie, George.

For floor.

Green, James.

In water marks.

Saunders, T. H., & Co.

Heraldic devices.

Soane, Harry.

Heraldic painting.

Ortner & Houle.

Pugh Brothers.

Shepperd, William Henry.

Works of art.

Photographs of.

South Kensington Museum.

Reproductions of fictile ivories.

South Kensington Museum.

Reproductions of (electrotype).

South Kensington Museum.

Reproductions in glass from ancient examples.

Aurora Glass Co.

Artists' materials.

Cornelissen, Louis, & Son.

Lechertier, Barbe, & Co.

Newman, James.

Rowney, George, & Co.

Drawing materials.

Wolff, E., & Son.

Drawing boards.

Willis, William Henry, & Co.

Drawing instruments.

Negretti & Zambra.

ART SCHOOLS—cont.

Drawing paper.

Colours (artists).

Lay figures.

Paint brushes.

Rulers for artists.

Varnishes (artists).

Pirie, Alexander, & Sons.

Berger (Lewis) & Sons.
 Cornelissen, Louis, & Son.
 Dane & Co.
 Lechertier, Barbe, & Co.
 Newman, James.
 Rowney, George, & Co.

Lechertier, Barbe, & Co.

Newman, James.
 Rowney, George, & Co.

Rowney, George, & Co.

Newman, James.

ARTIFICIAL FLOWERS.

Fletcher, Robert, & Son.

ARTISTS' MATERIALS. See under **ART SCHOOLS.**

ASSAYING (portable furnaces for).

Patent Plumbago Crucible Co.

ATLASES AND MAPS. See under **EDUCATIONAL APPLIANCES.****BASKET-WORK.**

Basket-work.

Cave, H. J., & Sons.

Baskets (for infants).

Bauer, Mrs. Adolphus.

BEER. See under **BEVERAGES.****BEEES AND BEEHIVES.**

Hives, &c.

Abbott, C. N.
 Neighbour, George, & Sons.
 Wilson, Brice.

BELLS.

Martineau & Smith.

BEVERAGES, MACHINERY FOR MANUFACTURING. See under **MACHINERY, &c., USED IN THE PREPARATION OF FOOD.**

Aërated waters. [See
 also under **CHEMICAL
 AND PHARMACEUTI-
 CAL PRODUCTS].**

Ginger waters.

Lemonades.

Bewley & Draper.
 British and Foreign Mineral Water
 Co.
 Corry, William, & Co.
 Evans, Richard, & Co.
 Inman Brothers.
 Sampson Brothers.
 Bewley & Draper.
 Cantrell & Cochrane.
 Corry, William, & Co.
 Inman Brothers.
 Sampson Brothers.
 Bewley & Draper.
 Cantrell & Cochrane.
 Corry, William, & Co.
 Inman Brothers.
 Rose, L., & Co.
 Sampson Brothers.

BEVERAGES, MACHINERY FOR MANUFACTURING—cont.

Aërated waters— <i>cont.</i>	Soda-waters, [potash, lithia, &c. as beverages].	Bewley & Draper. Cantrell & Cochrane. Corry, William, & Co. Inman Brothers. Sampson Brothers.
Ales and beers.		Anglo-Bavarian Brewery Co. Ballinal & Son. Banbury Brewery Co. Bindley & Co. Ferguson & Co. Gardner, George, & Co. Holmes, Joseph. Ind, Coope, & Co. Johnson & Co. Johnson, George. New Westminster Brewery Co. Sims, William, & Sons. Wright, Herbert, & Co. Young, John, & Son.
Cordials, essences, and liqueurs.		Evans, Richard, & Co. Henley & Son. Vaughan, Jones Edward. Vickers, Joseph & John, & Co.
Sugar, spirits, and syrups.		Evans, Richard, & Co. Minchen Brothers. [Exhibited in Indian Section.] Vaughan, Jones Edward. Vickers, Joseph & John, & Co.
Spirits.		
Whiskey.	(Scotch and Irish.)	Catto, James. Cork Distilleries Co., Limited. Dunville & Co. Johnston Distilleries Co., Limited. Kinahan & Co. Shiels, James. Vaughan, Jones Edward. Williams, William, & Sons.
Wines.	British.	Evans, Richard, & Co. Vaughan, Jones Edward.
Miscellaneous.	Perry and cider. Finings.	Henley & Son. Holmes, Joseph. Marshall & Holland. Arthur, J., & Co. Bevan, John James. Johnson, George. Kitchin, Joseph. Chapman, Edwin, & Co.
	Hops.	
	Koumiss.	

BICYCLES. See under **CARRIAGES.**

BONNETS AND HATS. See under **CLOTHING.**

BOOKS. See under **PRINTING AND BOOKS.**

BOOKBINDING. See under **STATIONERY AND BOOKBINDING.**

BOOTS. See under **CLOTHING.**

BOOTMAKING MACHINERY AND APPLIANCES.

Bootmaking machines
(an assortment).
Sewing machines.

Salmon & Co.

Beck, William Henry.
Bradbury & Co., Limited.
Greenwood & Batley.
Howe Machine Co., Limited.

Bootmakers' implements
and tools (see under
TOOLS).
Bootmaking materials.

Barron, W. J., & Sons.
Macintosh, Charles, & Co.
Rothenheim, Sigmund.
Ullathorne & Co.

BRASSWORK, PIERCED (Exhibited in Indian Section). Robinson, Vincent, & Co.

BREWING. See under **MACHINERY, &C. USED IN THE PREPARATION OF FOOD.**

BRIMSTONE.

Gibbs, James, & Co.

BRONZES.

Artistic works.

In Brass and Bronze.

Chubb & Son.
Hardmann, J., & Co.
Singer, John W., & Son.

In Iron.

Barnard, Bishop, & Barnards.
Coalbrookdale Co.
Cubitt, William, & Co.
Hardman, J., & Co.

CARPENTERING AND JOINING MACHINERY.

1. Joiners' machines,
various.
2. Universal joiners.

Ransome, A., & Co.

Powis, Charles, & Co.
Ransome, A., & Co.
Reynolds, F. W., & Co.
Western & Co.

3. Machines for single
operations.
- Dovetailing machines.
Mortising machines.

(Steam.)
Moulding machines.
Planing machines.

Worssam, Samuel, & Co.
Robinson, Thomas, & Son.
Powis, Charles, & Co.
Robinson, Thomas, & Son.
Worssam, Samuel, & Co.
Reynolds, F. W., & Co.
Ransome, A., & Co.
Ransome, A., & Co.
Robinson, Thomas, & Son.

Sawing machines,
sawing benches,
and circular saws.

Eagles, Thomas Duncombe.
Marshall, Sons, & Co., Limited.
Ransome, A., & Co.
Reynolds, F. W., & Co.
Robinson, Thomas, & Son.
Ruston, Proctor, & Co.
Western & Co.

(Band saws.)

Powis, Charles, & Co.
Robinson, Thomas, & Son.
Western & Co.

(Horizontal frame.)

Worssam, Samuel, & Co.
Robinson, Thomas, & Son.

CARPENTERING AND JOINING MACHINERY—*cont.*

Tenoning machines.		Robinson, Thomas, & Son.
Trying-up machines.		Powis, Charles, & Co. Worssam, Samuel, & Co.
4. Machines for various operations combined.	Mortising and boring. Mortising and tenoning and boring. Moulding and shaping. Planing and moulding.	Reynolds, F. W., & Co. Powis, Charles, & Co. Western & Co. Western & Co. Robinson, Thomas, & Son. Worssam, Samuel, & Co. Western & Co. Western & Co.
	Sawing (band saw) and bevelling.	
	Sawing (circular and band saw combined). Do. and boring. Do. and fretting. Do. and recessing.	Reynolds, F. W., & Co. Powis, Charles, & Co. Powis, Charles, & Co. Powis, Charles, & Co.
5. Miscellaneous machines and appliances.	Sharpening machines (see also under MACHINE TOOLS). (For moulding cutters.) (For plane irons.) (For saws.)	 Robinson, Thomas, & Son. Worssam, Samuel, & Co. Robinson, Thomas, & Son. Reynolds, F. W., & Co. Robinson, Thomas, & Son. Worssam, Samuel, & Co. Roberts, William.
	Painting machine.	Hall, Julius.
	Rotary drill for square holes.	
	Single deal frame.	Worssam, Samuel, & Co.
	Floor cramp.	Reynolds, F. W., & Co.

BUILDING. See under ARCHITECTURE AND BUILDING.

BUTTONS. See under HOSIERY AND UNDERCLOTHING.

CABINET MAKING MACHINERY. See CARPENTERING AND JOINING MACHINERY.

CAMP EQUIPAGE. See TRAVELLING APPARATUS AND CAMP EQUIPAGE.

CARPETS AND TAPESTRY. (For Tapestry and Curtains see also under DECORATIONS AND FURNITURE, and for Rugs and Felts under WOOLS AND WOOLLEN FABRICS.)

Axminsters.	Henderson & Co. Smith (Turberville) & Son. [Exhibited in Indian Section.] Tapling, Thomas, & Co. Thom & Lawson. Tomkinson & Adam. Cooke, Sons, & Co. Templeton, J. & J. S. Willis, Henry Richard, & Co. Woodward, Grosvenor, & Co.
Brussels.	Holme, George. [Exhibited in Indian Section.] Lapworth Brothers.
Oriental.	Robinson, Vincent, & Co. [Exhibited in Indian Section.]

CARPETS AND TAPESTRY—*cont.*

	<p>Stephens, James. Thom & Lawson. Watson, Bontor, & Co. [Exhibited in Indian Section.] Brinton, John, & Co. Cooke, Sons, & Co. Stoddard, A. F., & Co. Widnell, Henry, & Co. Brinton, John, & Co. Southwell, H. & M. Stoddard, A. F., & Co. Widnell, Henry, & Co. Woodward, Grosvenor, & Co. Brinton, John, & Co. Cooke, Sons, & Co. Henderson & Co. Templeton, J. & J. S. Waugh & Son. Willis, Henry Richard, & Co.</p>
Tapestry.	
Velvet pile.	
Wilton.	
Covers (table, &c.)	<p>Holme, George. [Exhibited in Indian Section.] Mitchell Brothers. Royal School of Art Needlework. Whincup, Joseph. Widnell, Henry, & Co.</p>
Curtains.	<p>Corbière, Son, & Brindle. Holme George. [Exhibited in Indian Section.] Jones & Willis. Ladies' Work Society. Royal School of Art Needlework. Templeton, J. & J. S. Thom & Lawson.</p>
Floor cloths and mat- tingi.	<p>Boulinikon Floor Cloth and Manu- facturing Co., Limited. Butchart, Lindsay, & Co. Corticine Floor Covering Co. Hare, John, & Co. Linoleum Manufacturing Co., Limi- ted. Mitchell Brothers. Nairn, Michael, & Co. Rothenheim, Sigmund. Treloar & Sons. Tull, Glanvill, & Co. Walton, Frederick. Widnell, Henry, & Co. Wilkey, William, & Co.</p>
Jutes.	<p>Butchart, Lindsay, & Co. Grimond, J. & A. D.</p>
Rugs (see also under WOOL AND WOOLLEN FABRICS).	<p>Stephens, James. Thom & Lawson. Widnell, Henry, & Co.</p>
Stair carpets.	<p>Stephens, James.</p>

CARPETS AND TAPESTRY—cont.Stair carpets—*cont.*

Tapestries.

Stoddard, A. F., & Co.
Woodward, Grosvenor, & Co.Corbière, Son, & Brindle, Royal
Windsor Tapestry Manufactory.**CARRIAGES.****I.—CARRIAGE BUILDING AND PARTS OF, &c.**

Carriages, designs for.

Drawings of carriages.

Axles.

Axles and springs.

Carriage building.

Bent timber and wheels.

Seats of bent wood.

Coach screws.

Wheels.

Woodwork for carriage
building.

Perambulator wheels.

Tires and spokes for
bicycles.Cooper, James Charles.
Mulliner, Henry.
Thorn, Charles.

Holmes, George Edward.

Wadsworth, Robert.

Solomon & Co.
Hopton, Thomas W.
Hopton, Thomas W.

The Patent Nut and Bolt Co., Limited.

Hopton & Sons.
Wadsworth, Robert.

Hopton & Sons.

Smith, Starley, & Co., Limited.

Beardshaw, Herbert.

II.—VEHICLES PROPELLED BY HORSES.

Cabs, Hansom.

Carriages.

Gordon, James, & Son.
Hayes, Henry, & Son.Aldebert, Isaac.
Cockshoot, Joseph, & Co.
Harrison, R., & Son.
Henderson, James, & Co.
Holmes, Herbert & Arthur.
Howes, Henry W.
Julian, Henry.
King, William.
Laurie & Marnier.
McNaught & Smith.
Morgan & Co.
Mulliner, Francis.
Mulliner, Henry.
Offord, Joseph.
Peters, Thomas, & Sons.
Roberts, John, & Sons.
Roberts, John.
Rock & Hawkins.
Thorn, Charles.
Windover, Charles Sandford.
Wyburn & Co.

CARRIAGES—cont.**II.—VEHICLES PROPELLED BY HORSES—cont.****Cars.**

Bush, J., & Co.
Howes & Sons.
Howes, Henry W.
King, William.
Windover, Charles Sandford.

Carts.

Bristol Waggon Works Co., Limited.
Howes & Sons.
Howes, Henry W.
McNaught & Smith.
Windover, Charles Sandford.

Coaches.

Holland & Holland.

Dog Carts.

Bush, J., & Co.
Gold, Henry.
Hayes, Henry, & Son.
Mulliner, Henry.
Windover, Charles Sandford.

Dhooley (Hill).

Bourke, Surgeon-Major.

Drags.

Laurie & Marnier.

Gigs.

Julian, Henry.
King, William.

Vans.

Hayes, Henry, & Son.
Taylor, Walter.

Wagonette.

King, William.

III.—VEHICLES OTHERWISE PROPELLED.**Bicycles.**

Bagshaw, Francis W.
Smith, Starley, & Co., Limited.

Tricycles.

Smith, Starley, & Co., Limited.

Velocipedes.**Bicycles**

Wilson (Newton) & Co.
Haynes & Jefferis.
Plowright, James.
Surrey Machinist Co.
Haynes & Jefferis.
Ward, John.
Smith, Starley, & Co., Limited.

Chairs.**Tricycles.
Invalid.****Perambulators.**

Martin, William.
Thompson, Charles.
Ward, John.

CERAMICS.**CLAYS.****China clay.**

House clay.
Pipe clay.
Potters' clay.

Thriscutt and Bale.
Walker, James.
Brooke, Edward, & Sons.
Candy & Co.
Brooke, Edward, & Sons.
Candy & Co.
Pike, W. J.

CERAMICS—*cont.*CLAYS—*cont.*

Stoneware clay.

Vitreous clay.

CERAMICS.

Black glazed ware.

Blue metallic wares.

Caneware.

China.

Crown ware.

Doulton ware.

Earthenware.

Earthenware china.

English Wedgewood.

Faience.

Faience d'Oiron (Henry II.).

Faience, Persian (exhibited in Indian Section).

Grès.

Indestructible ware.

Indian ware.

Ironstone china.

Ivory porcelain.

Jasper ware.

Jet ware.

Lambeth faience.

Lambeth ware.

Lustre ware.

Majolica.

Candy & Co.

Brooke, Edward, & Sons.

Candy & Co.

Brownhills Pottery Co.

Doulton & Co.

Bailey, W. & J. A.

Brown-Westhead, T. C., Moore, & Co.

Daniell, A. B., & Sons.

Goode, Thomas, & Co.

Howell, James, & Co.

Jones, George, & Sons.

Leprince, Louis Aimé Augustin.

Millar, John, & Co.

Wedgwood, Josiah, & Sons.

Royal Porcelain Works Co.

Doulton & Co.

Doulton & Watts.

Bates, Walker, & Co.

Brownhills Pottery Co.

Brown-Westhead, T. C., Moore, & Co.

Bussey, George Gibson.

Daniell, A. B., & Son.

Gardner, John, & Sons.

Hope & Carter.

Jones, George, & Sons.

Mintons.

Pinder, Bourne, & Co.

Wedgwood, Josiah, & Sons.

Allerton, Charles, & Sons.

Gardner, John, & Sons.

Gardner, John, & Sons.

Howell, James, & Co.

Mintons

Robinson, Vincent, & Co.

Gardner, John, & Sons.

Bates, Walker, & Co.

Mintons.

Cheavin, George.

Royal Porcelain Works Co.

Adams & Bromley.

Wedgwood, Josiah, & Sons.

Bates, Walker, & Co.

Hope & Carter.

Doulton, Henry, & Co.

Stiff, James, & Son.

Allerton, Charles, & Sons.

Maw & Co.

Adams & Bromley.

Bailey, W. & J. A.

Brown-Westhead, T. C., Moore, & Co.

Daniell, A. B., & Son.

Goode, Thomas, & Co.

Jones, George, & Sons

CHEMICAL APPARATUS—cont.

Apparatus for manu-
facturing chlorine.

[In model.]

Platinum apparatus.

Furnace for chemical
apparatus.

[In model.]

Hot table for chemical
apparatus.

Retorts for chemical
apparatus.

Glass for chemical
apparatus.

Stoneware for chemi-
cal apparatus.

Weldon, Walter.

Johnson, Matthey, & Co.

Mactear, James, F.C.S.

Paris, James.

Gibbons, B., jun.

Powell, James, & Son.

Doulton & Watts.

Stiff, James, & Sons.

CHEMICAL AND PHARMACEUTICAL PRODUCTS.**I.—CHEMICAL PRODUCTS.****Acids.**

Carbolic.

Citric.

Chrysophanic.

Cresylic.

Fatty.

Oxalic.

Picric.

Sulphuric.

Tartaric.

Alkalis.

Alkaloids (bromides
of).

Atkinson, George, & Co.

Baiss Brothers & Co.

Burgoyne, Burbidge, Cyriax, &
Farries.

Chambers, James, & Co.

Forster & Gregory.

Lowe, Charles, & Co.

Macfarlan & Co.

Mawson & Swan.

Morson, Thomas, & Son.

Richardson, John, & Co.

Savory & Moore.

Southall Brothers & Barclay.

Langthorne Chemical Works.

Bowdler & Bickerdike.

Lowe, Charles, & Co.

Readman, James Burgess.

Gerrard, A. W.

Morson, Thomas, & Son.

Bowdler & Bickerdike.

Price Patent Candle Co.

Chambers, James, & Co.

Bowdler & Bickerdike.

Burnard, Lack, & Alger.

Gibbs (James) & Co.

Chambers, James, & Co.

Christie & Co.

Christie & Co.

Desoto Alkali Co.

Mactear, James.

Runcorn Soap and Alkali Co., Li-
mited.

St. Bede Chemical Co., Limited.

Tennant, Charles, & Co.

Tyne Alkali Co.

Gerrard, A. W.

CHEMICAL AND PHARMACEUTICAL PRODUCTS—*cont.*I.—CHEMICAL PRODUCTS—*cont.*Alkalis—*cont.*

Caustic soda.

Nitrate of soda.

Sulphate of soda.

Stannate and sulphite
of soda.

Aloine.

Alum.

Ammonia.

Bromide and nitrate.

Sulphate.

Anthracine.

Arsenic.

Barium and strontium.

Bleaching liquids, &c.

Bromine.

Cadmium.

Chlorine.

Chloroform.

Codia.

Hydrobromate.

Collodion.

Disinfecting powders,
&c.

Fruit essence.

Gelatina.

Glucine.

Gums and resins.

G 913.

Chambers, James, & Co.

Golding, Davis, & Co.

Mactear, James.

North British Chemical Co.

Liver Alkali Works Co., Limited.

Rancorn Soap and Alkali Co., Li-
mited.

Tennant, Charles, & Co.

Burnard, Lack, & Alger.

Gibbs, James, & Co.

Readman, James Burgess.

Chambers, James, & Co.

Morson, Thomas, & Son.

Smith, T. & H., & Co.

Chambers, James, & Co.

Hall, A. W., & Co.

Spence, Peter.

Atkinson, George, & Co.

Langthorne Chemical Works.

Burnard, Lack, & Alger.

Hall, A. W., & Co.

Oakbank Oil Co., Limited.

Simpson, Payne, & Co.

Young's Paraffin Light and Mineral
Oil Co.

Hall, A. W., & Co.

Chambers, James, & Co.

Langthorne Chemical Works.

Evans, Richard, & Co.

Van Vollen, Gerret.

North British Chemical Co.

Atkinson, George, & Co.

Weldon, Walter.

Macfarlan, J. F., & Co.

Smith, T. & H., & Co.

Morson, Thomas, & Son.

Mawson & Swan.

Cleaver, F. S., & Sons.

Smith, John Martin.

Bush, W. J., & Co.

Savory & Moore.

Kerr, Edward, jun.

Chambers, James, & Co.

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CHEMICAL AND PHARMACEUTICAL PRODUCTS—*cont.*I.—CHEMICAL PRODUCTS—*cont.*Gums and resins—*cont.*

	Camphor.	Gidney, Clark, & Co. Runcorn Soap and Alkali Co. Turner, Charles, & Son. Wilkinson, Heywood, & Clark. Yorkshire Varnish Co. Atkinson, George, & Co. Chambers, James, & Co.
Hemlock bark extract.		Miller, J. J., & Co.
India-rubber chemical goods.		Macintosh, Charles, & Co.
Iodine.		Atkinson, George, & Co. North British Chemical Co. Atkinson, George, & Co. Chambers, James, & Co.
Lead.	Iodide. Sugar of.	Marshall & Holland. Jennings, Thomas. Washington Chemical Co. Allen, Frederick, & Sons. Maw, Thomas. Atkinson, George, & Co.
Lime, bisulphite.		
Magnesia.	Carbonate and calcined. Citrate.	Bewley & Draper. British and Foreign Mineral Water Co. Corry, William, & Co. Evans, Richard, & Co. Schweppe, Jacob, & Co. Bewley & Draper. Cantrell & Cochrane. Corry, William, & Co. Evans, Richard, & Co. Inman Brothers. Sampson Brothers. Corry, William, & Co.
Mercury.	Iodide and oxide.	Hall, A. W., & Co. Young's Paraffin Light and Mineral Oil Co. Atkinson, George, & Co. Leslie & Co., Limited. Atkinson, George, & Co. Allen & Hambury. Broomhead, George E. Leslie & Co., Limited. Richardson, John, & Co. Southall Brothers & Barclay. Atkinson, George, & Co. Bush, W. J., & Co.
Mineral waters (see also under BEVERAGES).		
	Lithia, potass, soda, and seltzer.	
	Quinine and tonic.	
Naphtha.		
Oils (see also OILS AND COLOURS).	Almonds. Castor oil. Cloves. Cod liver.	
	Cubebs. Essential.	
Phenol.		
Potash.	Chlorate. Prussiate.	Bowdler & Bickerdike. Tyne Alkali Co. Berger & Sons. Hurlet & Campsie Alum Co.
Phosphorus.	Pills.	Readman, James Burgess. Kirby, H. & T., & Co. Richardson, John, & Co.

CHEMICAL AND PHARMACEUTICAL PRODUCTS—cont.**I.—CHEMICAL PRODUCTS—cont.**

Potassium.	Bromide and iodide.	Atkinson, George, & Co. North British Chemical Co.
Pilocarpine.		Gerrard, A. W.
Purified fats.		Cook, Edward, & Co.
Rouge.		Leech & Neal. Oakey, John, & Son.
Salicine.		Macfarlan, J. F., & Co. Morson, Thomas, & Son. Smith, T. & H., & Co.
Seaweed charcoal.		North British Chemical Co.
Salts.	Salt cake. Saltpetre. Dry soaps.	Macfarlan, J. F., & Co. Golding, Davis, & Co. Langthorne Chemical Works. Evans, Richard, & Co. Glover, Henry, Son, & Co. Hemingway, S., & Co. Hudson, Robert S. Jarratt Brothers. Shaw, Henry, & Co. Twelvetreets, Harper, & Son.
Soaps (see also under PERFUMERY and WASHING).		
Theobromine and caffeine.		Dunn & Hewett.
Vulcanizing chemicals.		Forster and Gregory.

II.—PHARMACEUTICAL PRODUCTS AND PREPARATIONS.

General.		Allen & Hanburys. Burgoyne, Burbidge, Cyriax, & Farries. Kirby, H. & T., & Co. Morson, Thomas, & Co. Richardson, John, & Co. Savory & Moore. Southall Brothers & Barclay. Macfarlan, J. F., & Co. Liverpool Spun Oakum Co. Sims, William. Broomhead, George Emmett. Savory & Moore. Wyndham, F., & Co.
Special.	Antiseptic.	Kirby, H. & T., & Co.
	Botanical distillations.	Southall Brothers & Barclay.
	Chemical food.	Allen & Hanburys.
	Elixir lozenges and esprit des œufs.	Broomhead, George Emmett.
	Portable hospital medicines.	Morson, Thomas, & Son.
	Soluble meat.	Savory & Moore.
	Pate de jujube.	Kirby, H. & T., & Co.
	Pepsine.	Smith, T. & H., & Co.
	Tasteless medicines.	
	Tela vesicatoria.	

CHIMNEY SWEEPING MACHINES.

Ashford, W. & G., & Winder.

CHINA. See under CERAMICS.

CHURCH FURNITURE. See ECCLESIASTICAL FURNITURE.

CIGARS. | Stafford, J., Sons, & Oswin.

CIGARETTES. | Grunebaum, Joseph.
| Marcovitch & Co.

CIVIL ENGINEERING. (For building appliances see under ARCHITECTURE AND BUILDING.)

Asphalte cauldrons and tools.		Marshall, Alfred, & Co.
Bricks and blocks (stoneware) for engineers.		Candy & Co.
Timber felling machine.		Ransome, A., & Co.
Timber.	Cross-cutting machine for.	Ransome, A., & Co.
Timber, creosoted.		Bethell, John, & Co.
Timber.	Method of preserving, &c.	Gardner, A., & Son.
Creosoting process.	(Drawings explanatory of the.)	Bethell, John, & Co.
Permanent way.	(Samples of.)	Kincaid, Joseph.
Sluice gate.		Martin, William.
Steam road roller.		Aveling & Porter.
Water pipes.		Glenboig Fire-clay Co.

CLOCKS AND WATCHES.

Chronometers.		Bennett, Sir John. Gibson, William. Kullberg, Victor. Losada, José Rodriguez de. Neal, John. Riego, Michael. Smith, Borthwick.
Clocks.		Bennett, Sir John. Betjemann, Geo., & Sons. Losada, José Rodriguez de. Loseby, Amos. Price, George Frederic. Riego, Michael.
Watches.		Bennett, Sir John. Gibson, William. Kullberg, Victor. Losada, José Rodriguez de. Mackay, Cunningham, & Co. Neal, John. Riego, Michael. Smith, Borthwick.
Miscellaneous.	Compensation balance. Fusee chains. Movements and machinery. Regulator.	Webster, Richard. Shick, Frederick. Smith, Borthwick. Bennett, Sir John.

CLOTHING FOR BOTH SEXES.**Boots and shoes.****Clothes.****Boys and girls.****Men.****Women.****Head gear.****Bonnets.****Caps.****Hats.****Hoods and robes.****Overcoats.****Riding habits and
sporting costumes.****Waterproofs,**

Baxter, Richard.
 Bostock, Edwin & Frederick.
 Brightman Brothers.
 Campbell, Robert Henry Marks.
 Dean, W., & Sons.
 Flatau, A. & W., & Sons.
 Lobb, John.
 Matthews, James.
 Arnold & Coldwells.
 Marlborough, Duchess of.
 Nicoll, Henry John.
 Reid, James.
 Swears & Wells.
 McLintock, James, & Sons.
 Nicoll, Henry John.
 Jones, Pryce.
 Reid, James.
 Fyfe & Robinson.
 McLintock, James, & Sons.
 Manby, John.
 Nicoll, Henry John.
 Jones, Pryce.
 Reid, James.
 Field & Sons.
 Taylor Brothers.
 Vyse, Sons, & Co.
 Christy, J. E. & W., & Co.
 Craig, Christie, & Co.
 McLintock, James, & Sons.
 Moss, J. S., & Son.
 Taylor Brothers.
 Arnold & Coldwells.
 Bartrum, Harvey, & Co.
 Burbidge & Rowley.
 Christy, J. E. & W., & Co.
 Craig, Christie, & Co.
 Field & Sons.
 Hargroves, R. A. & J., & Co.
 MacQueen & Co.
 Mutton, Thomas, & Co.
 Rothenheim, Sigismund.
 Tress & Co.
 Vyse, Sons, & Co.
 Middlemass, James, & Co.
 Moss, J. L., & Son.
 Nicoll, Henry John.
 Arnold & Coldwells.
 Macintosh, Charles, & Co.
 Manby, John.
 Moss, J. S., & Son.
 Anderson, Abbott, & Anderson.
 Arnold & Coldwells.
 Birnbaum, Bernard.
 Blacklock, Goudie, & Co.
 Cunningham, Alexander, & Co.
 Currie, William, & Co.

CLOTHING FOR BOTH SEXES—*cont.*Waterproofs—*cont.*

Miscellaneous.

Gaiters, &c.
Hat spring.
Scotch costume.
Straw plaits.Uniform (firemen).
Wigs.Lee Brothers.
Lincoln, Bennett, & Co.
McGee, John G., & Co.
Macintosh, Charles, & Co.
Nicoll, Henry John.Slazenger & Sons.
Eddison, Thomas.
Meyer & Mortimer.
Lye, Thomas.
Vyse, Sons, & Co.
Merryweather & Sons.
Van Vollen, Gerret.

COLOURS. See OILS AND COLOURS.

CORALS.

Jacob, Bernard.

COTTON THREAD AND FABRICS.

Cottons and cotton Crochet and knitting.
threads.Embroidery and tat-
ting.

Sewing.

Cotton yarns.

Double.

Single.

Cotton fabrics and
piece goods (pure).Ashworth, Edmund, & Sons.
Brook, Jonas, & Brothers.
Carlile, James, Sons, & Co.
Clark & Co.
Dacca Twist Co.
Ermen & Roby.
Holland, William, & Sons.
Waters, J. & E., & Co.
Ashworth, Edmund, & Sons.
Brook, Jonas, & Brothers.
Carlile, James, Sons, & Co.
Clark & Co.
Ashworth, Edmund, & Sons.
Brook, Jonas, & Brothers.
Carlile, James, Sons, & Co.
Clark & Co.
Clark, J., & Co.
Coats, J. & P.
Dacca Twist Co.
Dewhurst, John, & Sons.
Ermen & Roby.
Evans, Walter, & Co.
Holland, William, and Sons.
Waters, J. & E., & Co.
Ashworth, Edmund, & Sons.
Donisthorpe, A. R.
Greenhalgh & Sons.
Holland, William, & Sons.
Vernon & Freemantle.
Ashworth, Edmund, & Sons.
Donisthorpe, A. R.
Greenhalgh & Sons.
Holland, William, & Son.
Priestman, John, & Co.
Vernon & Freemantle.Armitage, Elkanah, & Sons.
Barlow & Jones, Limited.
Bull & Wilson.
Creudson, Crosses, & Co., Limited.
Dacca Twist Co.

COTTON THREAD AND FABRICS—cont.

Cotton fabrics and
piece goods (pure)
—cont.

Mixed.

Blankets and quiltings.

Cotton braids and
cords.

Damask and dimity.

Linings.

Sheets and sheetings.

Smallwares, *e.g.*, ri-
bands, tapes, webs
(see also under
Hosiery).

Toilet towels.

Umbrella cloth.

Ferguson Brothers.
Hall, Lawrence.
Hawkins, John, & Sons.
Horrockses, Miller, & Co.
Johnson, Jabez, & Fildes.
Mitchell & Whytlaw.
Robinson, Vincent, & Co.
Schwann, Modera, & Co.
Stirling, William, & Sons.
Swainson, Birley, & Co.
Tootal-Broadhurst, Lee, & Co.
Williams, Sons, & Brookes.

Bull & Wilson.
Dacca Twist Co.
Ferguson Brothers.
Greenmount Spinning Co.
Hawkins, John, & Sons.
Mitchell & Whytlaw.
Tootal-Broadhurst, Lee, & Co.

Barlow & Jones, Limited.
Christy, W. M., & Son.
Dacca Twist Co.
Hall, Lawrence.
Johnson, Jabez, & Fildes.
Wood & Brearley.

Binns Patent Endless Braid Co.
Dacca Twist Co.
Brough, J. & J., Nicholson, & Co.
Waters, J. & E., & Co.

Barlow & Jones, Limited.
Dacca Twist Co.
Johnson, Jabez, & Fildes.

Dacca Twist Co.
Hall, Ralph, & Co.
Horrockses, Miller, & Co.
Palmer & Story.

Barlow & Jones, Limited.
Dacca Twist Co.
Horrockses, Miller, & Co.

Brough, J. & J., Nicholson, & Co.
Dacca Twist Co.
Holme, Geo.
Peters & Co.
Waters, J. & E., & Co.

Barlow & Jones, Limited.
Christy, W. M., & Sons, Limited.
Dacca Twist Co.
Hall, Lawrence.
Johnson, Jabez, & Fildes.
Wood & Brearley.

Dacca Twist Co.
Hall, Ralph, & Co.

COTTON THREAD AND FABRICS—*cont.*

Velvets, moleskins, &c.

Behrens, Louis.
Hall, Ralph, & Co.
Patent Velvet Co.
Schwann, Modera, & Co.

CUTLERY.

Dressing case instruments.

Brookes & Crookes.
Morton, Joseph.

Horticultural.

Saynor, Cooke, & Ridal.

Knives.

Pocket.

Brookes & Crookes.
Mayer & Meltzer.
Morton, Joseph.
Rodgers, Joseph, & Sons, Limited.
Brookes & Crookes.
Morton, Joseph.
Brookes & Crookes.
Morton, Joseph.
Neal, John, & Co.

Sporting.

Table.

Razors and scissors.

Brookes & Crookes.
Mayer & Meltzer.
Morton, Joseph.
Rodgers, Joseph, & Sons, Limited.

Unspecified.

British Xylonite Co.
Davis, J. C.
Jones, Thomas.
Thornhill, Walter, & Co.

Knife sharpeners, &c.

Oakey, John, & Sons.
Van Praag, Alex., & Co.DATING AND CONSECUTIVE NUMBER-
ING MACHINES.

Cooke, G. K., & Co.

DECORATIONS AND FURNITURE.

DECORATIONS (see also
CARPETS).Decorators' work.
Designs for interior
decorations of a man-
sion.Collinson & Lock.
Camm Brothers.

Blinds.

Williams, G. A., & Son.

Carvings.

Rogers, George Alfred.

Carving (frames), style
of Grinling Gibbons.

Rogers, George Alfred.

Carvings in wood.

Boyle, Richard B., jun.

Holmes, W. M.

Turpin, Marie Firmin Charles.

Cairns, Peter.

Carving in wood of a
fountain.

Ceiling decorations.

Shoolbred, James, & Co.

Ceiling decorations in
carton pierre.

Jackson, George, & Sons.

Ceiling decorations in
papier maché.

Jackson, George, & Sons.

Ceilings in wood.

Joubert, Amédée, & Sons.

Chandeliers (for gas).

Longden & Co.

Winfield, R. W., & Co.

Chandeliers (glass).

Green, James, & Nephew.

DECORATIONS AND FURNITURE—*cont.*DECORATIONS—*cont.*

Chimney pieces.	Powell, James, & Son. Webb, Thomas, & Son. Gregory & Co. Howard & Sons. Jackson & Graham. Joubert, Amédée, & Sons. Simpson, W. B., & Sons. Steel & Garland. Wedgwood, Josiah, & Sons. Longden & Co. Rogers, George Alfred. Bertram & Son.
Chimney pieces (carved).	
Chimney pieces (after Chippendale).	
Chimney pieces (xylographic decoration).	Whitburn & Young.
Curtains.	Cooper, H. & J. Copestake, Hughes, Crampton, & Co. Corbière, Son, & Brindle. Jackson & Graham. Ladies' Work Society. Royal School of Art Needlework. Pitman & Cuthbertson.
Curtains, tapestry painted.	
Dados in tiling.	Craven, Dunnill, & Co., Limited.
Door decoration.	Pitman and Cuthbertson.
Doors (xylographic decoration.)	Whitburn & Young.
Floor dowering (patent).	Lasealles, William Henry.
Frieze (decorative), embroidered.	Ladies' Work Society.
Frieze (decorative), painted.	Hall, Thomas.
Frieze (in tiles).	
Lamps (gas).	Simpson, W. B., & Sons. Winfield, R. W., & Co.
Mosaic for pavements.	Powell, James, & Sons.
Mouldings (veneered).	Fell, Johnston, & Co.
Mouldings (white).	Fell, Johnston, & Co.
Opus sectile.	Powell, James, & Sons.
Panelling.	Cooper, H. & J. Hall, Thomas. Boyle Richard, B., jun. Mellier, Charles, & Co. Newman, Mrs. Charlotte. Simpson, W. B., & Sons. Heaton, John Aldam. Ladies' Work Society. Turpin, Marie Firmin Charles. Joubert, Amédée, & Sons. Camm Brothers. Camm Brothers. Whitburn & Young.
Panels, carved. (Louis XIV.)	
Panels, decorative.	
Panelling, decorative for walls.	
Panelling (for a dado).	
Panel (for a door).	
Panels, majolica.	
Panels (xylographic decoration).	
Paper hangings.	
Parquet.	
Sun blinds for outside use.	Jackson & Graham. Howard & Sons. Joubert, Amédée, & Sons. Shoolbred, James, & Co. Turpin, Marie Firmin Charles. Williams, G. A., & Son.

DECORATIONS AND FURNITURE—*cont.*DECORATIONS—*cont.*

Tapestry.
(Painted).
(Portrait of Her Majesty the Queen).

Upholstery.

Wall decorations.

Wall decoration, glass painting.

Wall decorations in carton pierre.

Wall decorations in leather.

Wall decorations in papier maché.

Wall papers (painted).

Wall tapestry.

Window (Louis XIV. style).

Furniture and decorations of a mansion; the internal arrangements of the Pavilion of H.R.H. the Prince of Wales, President of the Royal Commission.

Furniture and decorations of a house in the International Façade.

Furniture of a dining room.

Furniture of a drawing room, "Adams" style.

Furniture of a library.

Furniture of a morning room, "modern English" style.

Furniture of a room.

Furniture.

Gillow & Co.
Simpson, W. B., & Sons.
Royal Windsor Tapestry Manufactory.

Collinson & Lock.
Ebbutt, Alfred C.
Pitman & Cuthbertson.
Shoolbred, James, & Co.
Trollope, George, & Sons.
Powell, James, & Sons.

Jackson, George, & Sons.

Brown Bros., late W. Scott Morton & Co.

Jackson, George, & Sons.

Simpson, W. B., & Sons.

Cooper, H. & J.

Royal Windsor Tapestry Manufactory.

Mellier, Charles, & Co.

Gillow & Co.

Shoolbred, James, & Co.

Gillow & Co.

Shoolbred, James, & Co.

Gillow & Co.

Shoolbred, James, & Co.

Gillow & Co.

Garrett, Rhoda & Agnes.

Howard & Sons.

Barnard Bradley.

Brown Bros., late W. Scott Morton & Co.

Cooper, H. & J.

Foley, Arthur.

Garrett, Rhoda & Agnes.

Gillow & Co.

Gregory & Co.

Hall, Thomas.

Holland & Sons.

Howard & Sons.

Jackson & Graham.

Jacoby, Julius.

Johnstone, Jeanes, & Co.

FURNITURE.

DECORATIONS AND FURNITURE—*cont.*FURNITURE—*cont.*

	Joubert, Amédée, & Sons.
	Lamb, James.
	Lascelles, William Henry.
	MacIntosh, Alexander H.
	Marsh, Jones, & Cribb.
	Mellier, Charles, & Co.
	Pitman & Cuthbertson.
	Shoolbred, James, & Co.
	Smee, Wm. A. & S.
	Trollope, George, & Sons.
	Walker, Wm., & Sons.
	Watt, William.
	Waugh & Son.
Furniture (bedroom).	Gillow & Co.
	Holland & Sons.
	Howard & Sons.
	Mellier, Charles, & Co.
	Shoolbred, James, & Co.
Cabinet furniture.	Brown Bros. (late W. Scott Morton & Co.).
	Collinson & Lock.
	Ebbutt, Alfred C.
	Gregory & Co.
	Lucraft, G. S., & Son.
	Smee, Wm. A. & S.
	Lamb, James.
	Lascelles, William Henry.
	Jackson, George, & Sons.
Decorative furniture.	
Decorative furniture in carton pierre.	Jackson, George, & Sons.
Decorative furniture in papier maché.	
Furniture, metallic.	Winfield, R. W., & Co.
Furniture, metallic, for gardens.	Barnard, Bishop, and Barnards.
Furniture, Old Eng- lish style.	Lascelles, William Henry.
Furniture (coverings for).	Royal School of Art Needlework.
Bassinettes.	Barnard Bradly.
	Bauer, Mrs. Adolphus W.
Bedsteads.	Allen, Thomas.
(in model).	Allen, Thomas.
(Metallic).	Peyton & Peyton.
Book-cases.	Winfield, R. W., & Co.
	Foley, Arthur.
Brackets.	Lucraft, G. S., & Son.
Brackets, carved.	Lucraft, G. S., & Son.
	Boyle, Richard B., jun.
	Holmes, W. M.
Brackets, carved	Rogers, George Alfred.
(style of Grinling Gibbons).	
Branches for lights, carved.	Holmes, W. M.
Buffets.	
Candelabra.	Hall, Thomas.
Cabinets.	Johnstone, Jeanes, & Co.
	Jackson & Graham.
	Cooper, H. & J.
	Green, Charles.
	Holmes, W. M.

DECORATIONS AND FURNITURE—*cont.*FURNITURE—*cont.*

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|------------------------------------|-------------------------------------|
| Cabinet ("Adams" style). | Howard & Son. |
| Cabinets (Buhl). | Jacoby, Julius. |
| Cabinets (decorated). | Ogden, Henry, & Son. |
| Cabinets (inlaid). | Watt, William. |
| Cabinet (Louis XVI.). | Johnstone, Jeanes, & Co. |
| Cabinets (with china plaques). | Mellier, Charles, & Co. |
| Cabinets (with glass decorations). | Wirth Frères et Cie, Limited. |
| Cabinet, secretary. | Jackson & Graham. |
| Chairs. | Mellier, Charles, & Co. |
| | Oppenheim, William. |
| | Lee, Henry M. |
| | Foley, Arthur. |
| | Cooper, H. & J. |
| | Hall, Thomas. |
| | Johnstone, Jeanes, & Co. |
| | Joubert, Amédée, and Sons. |
| | Pitman & Cuthbertson. |
| | Mellier, Charles, and Co. |
| | Walker, Wm. & Sons. |
| | Watt, William. |
| | Waugh & Son. |
| | Lucraft, G. S., & Son. |
| Chairs (after Chipendale). | Winfield, R. W., & Son. |
| Chairs (metallic). | Ward, John. |
| Chairs (recumbent). | Ward, John. |
| Chairs (self-acting). | Hardman, J., & Co. |
| Chandeliers. | Winfield, R. W., & Co. |
| | Lucraft, G. S., & Son. |
| | Jackson & Graham. |
| China shelves. | Hems, Harry. |
| Clock. | Howard & Sons. |
| Coffer (Gothic style). | Allen, Thomas. |
| Consoles. | Winfield, R. W., & Co. |
| Cots. | Mellier, Charles, & Co. |
| | Winfield, R. W., & Co. |
| Couches. | Joubert, Amédée, & Sons. |
| Couches (metallic). | |
| Couch ("hammock couch"). | Foley, Arthur. |
| Desk. | Barnard Bradly. |
| Hat stand (folding). | Bertram & Son. |
| Mirror (after Chipendale). | |
| Music stool. | Capel, Henry. |
| Reading easel. | Harris, George Henry. |
| Pianoforte (artistic). | Capel, Henry. |
| (Satinwood). | Ogden, Henry, & Son. |
| Screens. | Jeffrey & Co. |
| Screen (cheval). | Lee, Henry M. |
| Sideboards. | Jacoby, Julius. |
| | Walker, Wm., & Sons. |
| | Waugh & Son. |
| | MacIntosh, Alexander H. |
| | Marsh, Jones, & Cribb. |
| | Royal Windsor Tapestry Manufactory. |
| | Cooper, H. & J. |
| Sideboard (carved). | |
| Sofa (tapestry). | |
| Tables. | |

DECORATIONS AND FURNITURE—cont.**FURNITURE—cont.**

Table (billiard).	Howard & Sons.
Table, dining (expanding).	Jacoby, Julius.
Table (extending).	Mellier, Charles, & Co.
Table (invalid).	Pitman & Cuthbertson.
Wardrobe.	Watt, William.
Washstands.	Stevens & Sons.
Whatnot (artistic).	Johnstone, Jeanes, & Co.
	Pereira, John, & Son.
	Barnard Bradly.
	Foley, Arthur.
	Spiers & Son.
	Capel, Henry.

DESIGNS. See under **ART SCHOOLS.**

DIES AND DIE SINKING.

Die sinking machine,
with specimens of
work.
Die sinking.

Dies, with specimens.

Glanville, Albert Francis.

Ortner & Houle.
Pugh Brothers.
Waterlow & Sons, Limited.

Jenner & Knewstub.

DRAWING MATERIALS. See under **ART SCHOOLS.**

DRAWING PAPERS. See under **STATIONERY AND BOOKBINDING.**

DYEING AND PRINTING (specimens of).

Ashton, F. W., & Co.
Dalglish (R.), Falconer, & Co.
Palmer & Story.
Ripley, Edward, & Son.
Schwabe, Salis, & Co.
Seligman & Haarblicher.
Serre, Achille.
Turtle & Pearce.

EARTHENWARE. See under **CERAMICS.**

ECCLESIASTICAL FURNITURE.

Ecclesiastical furniture.

Ecclesiastical metal
work.

Ecclesiastical decoration
(an altar piece).
Alms dishes.

Altar chair.

Cross (granite).

Chubb & Son.
Hems, Harry.
Jones & Willis.

Chubb & Son.
Winfield, R. W., & Co.

Westlake, N. H. J., F.S.A.

Jones & Willis.
Singer, John W., & Son.

Jacoby, Julius.

Macdonald, Alex. Field, & Co.

ECCLESIASTICAL FURNITURE—cont.

Font (granite).

Lectern (brass).

Reredos.

Tiles (church).

Hunter, James.

Jones & Willis.
Singer, John W., & Son.

Jones & Willis.

Chubb & Son.

EDUCATIONAL APPLIANCES. See also ART SCHOOLS.*(a.) Buildings, Furniture, &c.*

Model of school buildings.

School furniture.

Coat and cap hooks.
Desks.

(Lecturers).

Easels.

Kindergarten apparatus.

(b.) Instruction.

Educational apparatus.

Educational books.

Diagrams for lectures.

Illustrations.

(c.) Instruction in particular Studies.

Anatomical wax models.

Arithmetical apparatus, &c.

Astronomical apparatus, planetariums.

Drawing models.

Geographical text books.

Globes.

Maps, atlases, and plans.

Southee, Arthur Philip.

Hammer, George Mence.
Hawes, George E.Colman & Glendinning.
Colman & Glendinning.
Hammer, George Mence.
Hawes, George E.
Middleton, Thomas John.

Hammer, George Mence.

Sonnenschein, Adolf.

Southee, Arthur Philip.

Blackwood, William, & Sons.
Philip, George, & Son.
Religious Tract Society.
Sunday School Union.
Pure Literature Society.

Johnston, W. & A. K.

Crisp Edwards, M.D.

Sonnenschein, Adolf.
Southee, Arthur Philip.

Newton & Co.

Hammer, George Mence.

Philip, George, & Son.

Johnston, W. & A. K.
Newton & Co.
Philip, George, and Son.Bartholomew, John.
Johnston, W. & A. K.
Kips, John Joseph.
Leighton, John, F.S.A.

EDUCATIONAL APPLIANCES—cont.

(c.) *Instruction in particular Studies—cont.*

Maps, atlases, and plans—*cont.*

Maps (dissected).

Natural history, specimens of.

Reading apparatus.

Science schools, apparatus for loan to.

Science teaching, appliances for.

Stenographic diagrams.

Games, educational.

Magic lanterns and accessories.

Oxyhydrogen light, lanterns for.

Reward cards.

Marcus Ward & Co.
Philip, George, & Son.
Proprietors of "Practical Guides" for Tourists.

Pure Literature Society.
Religious Tract Society.
Stanford, Edward.
Sunday School Union.

Philip, George, & Son.

Darragh, Thomas.

Sonnenschein, Adolf.

South Kensington Museum.

Twining, Thomas.

Rundell, Joseph B.

Philip, George, & Son.
Southee, Arthur Philip.

England, William.
Newton & Co.
Middleton, Thomas John.
York, Frederick.

Newton & Co.

Sunday School Union.
Ward, Marcus, & Co.

ELECTRO-PLATED GOODS. See under **GOLDSMITHS' AND SILVERSMITHS' WORK.**

EMBROIDERY. See under **LACE AND EMBROIDERY.**

ENGRAVING AND LITHOGRAPHY.

Engravings.

Specimens of.
Specimens of map engraving.
Heraldic.
Line.
Photographic.
Photographic.

Engraving on glass.

Applied to pottery.

Engraving on stone.

Impressions of.

Wood engravings.

Kerr, Edward, jun.
Newspaper Publishing Co., Limited.
Ortner & Houle.
Stanford, Edward.

Pugh Brothers.
Virtue & Co., Limited.
Dallas, Duncan Campbell.
Typographic Etching Co.

Wedgewood, Josiah, & Sons.

Warner, Son, & Co.

Dickes, William, & Co.
"The Graphic."
Uhlich, Heinrich Sigismund.
Welch, William James.
Whympier, Edward.

ENGRAVING AND LITHOGRAPHY—cont.

Engraving.	Blocks.	Lawrence, Thomas John.
Engraved blocks.	Electrotype.	Typographic Etching Co.
Engraver's wax.		Waterston, G., Sons, & Stewart.
Tools for wood en- graving.		"The Graphic."
Wood blocks.	(Engravers).	"The Graphic."
Lithographs.		Day, John B.
Lithography.	Specimens of.	Collingridge, W. H. & L.
Lithographic.	Specimens.	Stanford, Edward.
Lithography.	Specimens of litho- graphed maps.	Stanford, Edward.
Lithographic ink.		Fleming, A. B., & Co.
Lithographic materials.		Cornelissen, Louis, & Son.
Chromolithographs.		Day, John B.
		Dickes, William, & Co.
		Hanhart, Michael & Nicholas.
		Rowney, George, & Co.
		Marcus Ward & Co.
		Dickes, William, & Co.
		Dickes, William, & Co.
Oleographs.		
Paris Exhibition.	Lithographed plan of.	Dangerfield, Frederick.
Pictures for cottage walls.		Pure Literature Society

ESPARTO, AS PAPER MAKER'S STOCK. | Routledge, Thomas.

FERMENTED DRINKS. See under **BEVERAGES.**

FIRE BRICKS.

Fire clay and fire bricks.	Abernant Iron Works and Collieries Co.
	Brooke, Edward, & Sons.
	Candy & Co.
	Corcoran, Witt, & Co.
	Dunnachie, James.
	Gibbons, B., jun.
	Harper and Moores.
	Harrison, George King.
	King Brothers.
	Plymouth Fire Clay Co.
	Ramsay, George Heppel.
	Walker, James.
	Brooke, Edward, & Sons.
Glass, house, and spelter clay.	Gibbons, B., jun.
Fire clay cement.	Cliff, Joseph, & Sons.
Fire bricks, patterns of.	Dunball Steam Pottery Tile and Brick Co.
Fire bricks for ovens.	Gibbons, B., jun.
Fire bricks, blocks, models, &c. for making.	

FIRE BRICKS—cont.

Fire brick lumps (patterns of).

Fire quarries.

Fire standing goods.

Fire tiles for ovens.

Furnace blocks.

Glass furnace blocks.

Glass house blocks.

Glass work melting pots.

Retorts.

Vitrified bricks.

Cliff, Joseph, & Sons.

Brooke, Edward, & Sons.

Doulton & Co.

Dunball Steam Pottery Tile & Brick Co.

Glenboig Fire Clay Co.

Harper & Moores.

King Brothers.

Glenboig Fire Clay Co.

Dunnachie, James.

Harper & Moores.

Cliff, Joseph, & Sons.

Gibbons, B., jun.

Ramsay, George Heppel.

Plymouth Fire Clay Co.

FIRE ENGINES.**I.—FIRE ENGINES AND FIRE ESCAPES.**

Steam.

Curricie.

Double action.

Manual.

For ship use.

Gas fire engine.

Fire hand pumps.

Fire extinguishers.
(In model.)

Fire escapes (domestic).

Merryweather & Sons.
Shand, Mason, & Co.
Tangye Brothers.

Merryweather & Sons.

Adair & Co.
Blundell, George Thomas & James
Walter.

Merryweather & Sons.

Duvallon & Lloyd.
Stone, J., & Co.

Loewenthal, Leopold.

Hayner, Thomas, & Sons.
Merryweather & Sons.Lipman & Co.
Hall, Julius.

Merryweather & Sons.

I.—PARTS AND ACCESSORIES OF FIRE ENGINES, &c.

A selection.

Merryweather & Sons.

Brigade uniforms
and equipments.

Merryweather & Sons.

Fire buckets.

French, John, & Co.
Merryweather & Sons.
Norris, S. E., & Co.
Tullis, John, & Son.

FIRE ENGINES—*cont.*II.—PARTS AND ACCESSORIES OF FIRE ENGINES, &c.—*cont.*

Fire hose.	Adair & Co. French, John, & Co. Norris, S. E., & Co. Tullis, John, & Son.
Hose reels.	Merryweather & Sons. Shand, Mason, & Co. Pumphrey, Josiah.
Hydrants and stand pipes.	Alley & McLellan. May & Mountain. Merryweather & Sons. Shand, Mason, & Co. Stone, J., & Co.
Respirators for breathing in smoke.	Loewenthal, Leopold.

FISH HOOKS. See under FISHING APPARATUS.

FISHING APPARATUS.

Fishing tackle. Rods, reels, lines, bait, &c.	Allcock, Samuel, & Co. Bartlett, William, & Sons. Dickson, William, & Co. Ryder, William Henry. Taylor, James. Woodfield, William, & Sons. Wright, Robert.
Artificial flies.	Allcock, Samuel, & Co. Wright, Robert.
Fish hooks.	Allcock, Samuel, & Co. Bartlett, William, & Sons. Buchanan, James. Chambers, G., & Co. Hayes, Crossley, & Co. Milward, Henry, & Sons. Turner, R., & Sons. Woodfield, William, & Sons.
Nets (herring and mackerel). Silk worm gut.	Stuart, John & William. Allcock, Samuel, & Co. Bartlett, William, & Sons.
Wading boots, &c.	Wright, Robert.

FLAX. See under LINEN THREAD AND FABRICS.

FOOD. See ALIMENTARY PRODUCTS; and for its preparation, MACHINERY, &c. **IN THE PREPARATION OF FOOD.**

FORESTRY.	Timber - felling machine.	Ransome, A., and Co.
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FURNITURE. See DECORATIONS AND FURNITURE.

FURNITURE, ECCLESIASTICAL. See ECCLESIASTICAL FURNITURE.

FURNITURE FOR SCHOOLS. See under EDUCATIONAL APPLIANCES.

FURNITURE STUFFS. See under CARPETS AND TAPESTRY.

GAMES. See TOYS AND GAMES.

GAS. (See also HEATING AND LIGHTING.)

APPARATUS AND APPLIANCES FOR THE MANUFACTURE OF GAS.

Gas works.

(In model.)

Gas-making apparatus.

(In model.)

Gas-making apparatus
(portable).

Gas-making apparatus
(atmospheric gas).

(Heating gas) appa-
ratus for generating.

Gas exhausters.

Gas-holder (dry).

Gas meters.

Gas meter (experimen-
tal).

Gas meters (illumina-
ting power, &c.)

Gas retorts.

Gas retort lids.

Gas burners.

Gas consumers' gover-
nors (dry).

Gas street-lamp regu-
lators.

Gas fitters, stocks and
dies for.

Mackrill, Edward Thacker, & Co.

Paris, James.

Sun Auto-pneumatic Lighting and
Heating Co.

Wright, John, & Co.

Protector Lamp and Lighting Co.,
Limited.

Müller, H. L.

William Wright.

General Heat and Light Co., Limited.

Gwynne & Co.

Sugg, William.

Brown, Benjamin & John, & Co.
Cowan, W. & B.

Sugg, William.

Sugg, William.

Brooke, Edward, & Sons.

Dunnachie, James.

Glenboig Fire Clay Co.

Harper & Moores.

Harrison, George King.

King Brothers.

Ramsay, George Heppel.

Whitehead, John, & Co.

Gwynne & Co.

Sugg, William.

Sugg, William.

Tice, William.

Sugg, William.

Tice, William.

Wright, John, & Co.

GEOGRAPHY. See under EDUCATIONAL APPLIANCES.

GLASS. (For glass manufacturing ovens and appliances see under **FIRE BRICKS.**)
Glass.

Glass (various articles).

Glass ware.

Glass (chemical glass).

Glass (coloured Venetian style).

Glass (crystal).

Glass (cut).

Glass (cut, table-glass).

Glass (engraved).

Glass (engraved table glass).

Glass (fancy glass).

Glass (iridescent).

Glass (Persian, exhibited in Indian Section).

Glass (patent threaded).

Glass (sculptured).

Glass (sheet-glass).

Glass (table glass).

Glass (toilet).

Glass bottles.

Glass (chandeliers).

Glass (dessert service).

Bailey, W. & J. A.
Daniell, A. B., & Son.
Hodgetts, Richardson, & Son.
Osler, F., & Co.
Powell, James, & Son.
Webb, Thomas, & Sons.

Kilner Brothers.
Millar, John, & Co.
Osler, F. & C.

Green, James, & Nephew.

Powell, James, & Son.

Jenkinson, Alexander.

Osler, F. & C.

Bailey, W. & J. A.
Daniell, A. B., & Son.
Jenkinson, Alexander.

Millar, John, & Co.

Bailey, W. & J. A.
Daniell, A. B., & Son.
Jenkinson, Alexander.

Millar, John, & Co.

Powell, James, & Son.
Webb, Thomas, & Sons.

Jenkinson, Alexander.
Webb, Thomas, & Sons.

Robinson, Vincent, & Co.

Hodgetts, Richardson, & Son.

Hodgetts, Richardson, & Son.

Powell, James, & Son.

Hodgetts, Richardson, & Son.
Powell, James, & Son.
Webb, Thomas, & Sons.

Jones, Thomas.

Bagley, Wild, & Co.
Bussey, George Gibson.

Green, James, & Nephew.
Powell, James, & Son.
Webb, Thomas, & Sons.

Hodgetts, Richardson, & Son.

GLASS—cont.

Glass (flower stands).

Glass (girandoles).

Glass (globes for gas).

Glass (jardinières).

Glass (lustre candlesticks).

Glass (mirrors).

Glass (mosaic).

Glass (ormolu-mounted goods).

Glass vases (sculptured glass).

Glaziers' diamonds.

Green, James, & Nephew.

Webb, Thomas & Sons.

Bailey, W. & J. A.

Webb, Thomas, & Sons.

Green, James, & Nephew.

Powell, James, & Son.

Powell, James, & Son.

Green, James, & Nephew.

Hodgetts, Richardson, & Son.

Hewitt, John, & Co.

GLOVES. See under **HOSIERY AND UNDERCLOTHING.****GOLD.**

(Crucibles for.)

| Patent Plumbago Crucible Co.

GOLDBEATERS' SKIN AND GOLD LEAF. See under **GOLDSMITHS' AND SILVERSMITHS' WORK.****GOLDSMITHS' AND SILVERSMITHS' WORK** (including plated goods, &c.).

Cases and caskets.

Betjemann, George, & Sons.
Chubb & Sons.

Castings and damascening.

Art Union of London.
Elkington & Co.

Enamels.

Elkington & Co.
Marshall & Co.Repoussé work (see also under **BRONZES**).Elkington & Co.
Hardman, J., & Co.
Singer, John W., & Son.

Plate (including candelabra and épergnes, &c.).

Hart, Son, Peard, & Co.
Hodd, R., & Son.
Jones & Willis.
Mackay, Cunningham, & Co.
Smith, Borthwick.

Electroplate.

Elkington & Co.
Hodd, R., & Son.
Neat, John.
Ridge, Woodcock, & Hardy.
Shaw & Fisher.
Martineau & Smith.
Wright, Sutcliffe, & Son.

Taps.

Ormolu.

Betjemann, George, & Sons.
Leuchars & Son.

Gold and silver foil and leaf.

Bennett, Thomas, & Sons.

Goldbeaters' skin.

Puckridge, Frederick, & Nephew.

GUNS. See SPORTING GUNS AND AMMUNITION.

HARNES AND SADDLERY.

I.—HARNES.

II.—SADDLERY.

III.—STABLE FITTINGS AND APPOINTMENTS.

IV.—MISCELLANEOUS ACCESSORIES.

I.—HARNES.

Harness.

Bliss, William, & Co.
Hawkins, John, & Co.
Holmes, Charles.
Lennan & Son.
Peirce, Williams Adams.
Urch & Co.

Harness furniture.

Bliss, William, & Co.
Peirce, Williams Adams.
Phosphor Bronze Co., Limited.

Harness pad.

Peirce, Williams Adams.

II.—SADDLERY.

Saddlery.

Christie, William.
Peirce, Williams Adams.
Urch & Co.

Saddles.

Ashford, W. & G., & Winder.
Bliss, William, & Co.
Christie, William.
Holmes, Herbert M., jun.
Lennan & Son.
Peirce, Williams Adams.
Urch & Co.

Bits.

Ashford, W. & G., & Winder.
Bliss, William, & Co.
Hawkins, John, & Co.
Latchford & Wilson.

Bridles.

Ashford, W. & G., & Winder.
Hawkins, John, & Co.
Holmes, Herbert M., jun.
Lennan & Son.
Peirce, Williams Adams.
Shammon, William.

Bridle work.

Bliss, William, & Co.

Head collars.

Ashford, W. & G., & Winder.

Spurs and boxes.

Allsopp, Charles William, & Co.
Ashford, W. & G., & Winder.
Hawkins, John, & Co.
Latchford & Winder.
Maxwell, Henry, & Co.
Shammon, William.

Stirrups.

Ashford, W. & G., & Winder.
Hawkins, John, & Co.
Latchford & Wilson.

HARNESS AND SADDLERY—cont.**II.—SADDLERY—cont.**

Stirrups (safety).

Stirrup irons.

Stirrup leathers.

Stirrup leather bars.

Straps.

Whips and riding canes.

Whip ornaments and materials.

III.—STABLE FITTINGS AND APPOINTMENTS.

Stable appointments.

Stable fittings.

Stable requisites.

Horse brushes.

Horse clippers.

Horse clipping machines.

Horse clothing.

Horse grooming machinery.

Leathers.

Saddletrees.

IV.—MISCELLANEOUS ACCESSORIES.

Apparatus to stop runaway horses.

Dog-starter collars.

Harness house boiler.

Horns.

Ointment (Hoplemura).

Polishes.

Lennan & Son.

Bliss, William, & Co.

Shammon, William.

Christie, William.

Ashford, W. & G., & Winder.
Shammon, William.Ashford, W. & G., & Winder.
Davis & Wilson.
Peirce, Williams Adams.
Shammon, William.
Swaine & Adeney.

Davis & Wilson.

Ashford, W. & G., and Winder.

Musgrave & Co., Limited.
St. Pancras Iron Works Co.

Peirce, Williams Adams.

Ashford, W. & G., & Winder.

Bown, William.
Clark, William.
Wilson, Newton, & Co.Martin, Robert.
Wilson, Newton, & Co.

Bliss, William, & Co.

Wilson, Newton, & Co.

Ashford, W. & G., & Winder.

Christie, William.

Pollock, Sydney.

Ashford, W. & G., & Winder.

Graham, S. J., Crook & Co. (executors of the late).
Swaine & Adeney.

Clark, William.

Peirce, Williams Adams.
Pullman, Robert & John.

HARNESS AND SADDLERY—cont.**IV.—MISCELLANEOUS ACCESSORIES—cont.**

Saddlers' ironmongery.

Saddlers' leather.

Shoeing tools and frost
chisels.

Sporting apparatus.

Waterproof goods.

Hawkins, John, & Co.

Ashford, W. & G., & Winder.

Holmes, George Edward.

Swaine & Adeney.

Bliss, William, & Co.

HATS AND BONNETS. See under **CLOTHING.****HEATING AND LIGHTING.** (For gas manufacture see **GAS.**)

Boilers (cooking, &c.).

Drying closets.

Fire irons, fenders, and
fire-places.

Grates and ranges.

Heating apparatus (see
also under **HORTI-
CULTURE**).

Ovens and hot plates.

Stoves.

Hartley & Sugden.

Leoni, S., & Co.

Lumby, Edwin.

Rosser & Russell.

Wright, John, & Co.

Bacon, J. L., & Co.

Rosser & Russell.

Craven, Dunnill, & Co., Limited.

Feetham, Mark, & Co.

Longden & Co.

Steel & Garland.

Coalbrookdale Co.

Feetham, Mark, & Co.

Harris, George Henry.

Hart, Son, Peard, & Co.

Longden & Co.

Rosser & Russell.

Steel & Garland.

Bacon, J. L., & Co.

Butt, Frederic William.

Harlow, Benjamin.

Hartley & Sugden.

Lumby, Edwin.

Musgrave & Co., Limited.

Rosser & Russell.

Scanlan, jun., & Co.

Wright, John, & Co.

Wright, William.

Leoni, S., & Co.

Barnard, Bishop, and Barnards.

Falkirk Iron Co.

Feetham, Mark, & Co.

Haynes (Thomas) & Sons.

Longden & Co.

May, G. H., & Co.

Musgrave & Co., Limited.

Rosser & Russell.

Wright, John, & Co.

Wright, William.

HEATING AND LIGHTING—cont.**Candles.**

Price's Patent Candle Co.
Simpsons, Payne, & Co.
Young's Paraffin Light and Mineral Oil Co.
Longden & Co.
Wright, John, & Co.

Chandeliers and gaseliers.

Siebe & Gorman.

Electric light.**Lamps.**

Abrahams, Abraham.
Gardner, John, & Sons.
Pillischer, Moritz.
Ridsdale & Co.
Simpsons, Payne, & Co.
Abrahams, Abraham.
Kerr, Edward, jun.
Brown, Benjamin & John, & Co.
Winfield, R. W., & Co.
Wavish, James.
Pillischer, Moritz.
Wavish, James.
Ridsdale & Co.
Ridsdale & Co.

Advertising.**Farm.****Gas.****Masthead.****Microscope.****Punkah.****Railway.****Ships.**

Oils for lighting. (See
OILS AND COLOURS).
Night lights.

Price's Patent Candle Co.
Simpsons, Payne, & Co.

Tubes for gas. (See
tubes under METALS).
Various.

Coaleconomiser.**Brass cocks and swivels
for gas.****Kitchen taps.****Smoothing irons (gas).****Wax vestas and cigar
lights.**

Wavish, James.
Russell, John, and Co., Limited.
Wright, Sutcliffe, & Son.
Paris, James.
Bell, R., & Co.

HEMPEN THREAD AND FABRICS. See **LINEN THREAD AND FABRICS.**

HOOKS, FISHING. See under **FISHING APPARATUS.**

HORTICULTURE.**I.—CONSERVATORIES AND HORTICULTURAL APPARATUS.**

Conservatories and
heating apparatus.

Boulton & Paul.
Boyd, James, & Sons.
Butt, Frederic William.
Dunball Steam Pottery Tile & Brick Co.
Harlow, Benjamin.
Hartley & Sugden.
Lascelles, W. H.
Lumby, Edwin.
Radclyffe (Dick) & Co.
Sinclair, David, & Co.
Wood, R. F., & Co.

Furniture (terra-cotta,
&c.).

Adams & Bromley.
Barnard, Bishop, & Barnarda.
Cliff, Joseph, & Sons.

HORTICULTURE—cont.**I.—CONSERVATORIES AND HORTICULTURAL APPARATUS—cont.**

Furniture (terra-cotta,
&c.).—*cont.*

Doulton, H., & Co.
Fox, J. Caven.
Hardman, J., & Co.
Maw & Son.
Plymouth Fire Clay Co.
Stiff, James, & Son.

Implements.

Barford & Perkins.
Follows & Bate.
Pumphrey, Josiah.
Saynor, Cooke, & Ridal.

Machines.

Barnard, Bishop, & Barnards.
Coleman & Morton.
Follows & Bate.
Hartley & Sugden.
Parkinson, William.

Wire network.

Barnard, Bishop, & Barnards.
Boulton & Paul.
Thomas, J. J., & Co.

II.—FLOWERS AND PLANTS (including Seeds).

Drawings and models.

Carter (James), Dunnett, & Beale.
Draper, John.
Christy, Thomas.
Radclyffe (Dick) & Co.
Sutton & Son.
Webb, Edward, & Son.
Wills, John.

Flower pots (iron),
decorated.

Carter (James), Dunnett, & Beale.
Christy, Thomas, & Co.
Richards, William.
Sutton & Son.
Webb, Edward, & Son.
Hilton, William Henry.

HOSIERY AND UNDERCLOTHING.

Gloves.

Morley, J. & R.
Spiers Brothers.

Hosiery.

Allen, Solly, & Co.
Appleyard, H., & Co.
Debenham & Freebody.
Marlborough, Dukes of.
Morley, J. & R.
Nottingham Manufacturing Co.,
Limited.
Smyth & Co.
Spiers Brothers.
Festa, G.
Lewis, G. & E. S.
Thomson, W. S., & Co.
Bauer, Mrs. Adolphus W.

Corsets.

Underclothing.

HOSIERY AND UNDERCLOTHING—cont.**Hosiery—cont.**

Miscellaneous articles. Buttons.

Nottingham Manufacturing Co.,
Limited.
Spiers Brothers.
Swears & Wells.
Aston, William.
Cook, Edward, & Co.
Fyfe & Robinson.
Hick, William.
Perry & Co.
Tayler, D. F., & Co.

HYDRAULICS. See under **MACHINERY AND APPARATUS IN GENERAL.****ICE AND REFRIGERATORS.** See under **MACHINERY, &C. USED IN THE PREPARATION OF FOOD.****INKS, WRITING, PRINTING, &C.** See under **STATIONERY AND BOOKBINDING.****INSECTS.** See **BEES AND BEEHIVES.****INVALID CHAIRS.** See under **CARRIAGES.****IRIDESCENT GLASS.** See under **GLASS.****JEWELLERY AND PRECIOUS STONES.** (See also under **LEATHER AND FANCY ARTICLES.**)

Brooches and lockets.

Brogden, John.
Crouch, Joseph M.
Crouch, William Albert.
Gibson, William.

Cameos and mosaics.

Francati & Santamaria.

Chains and necklaces.

Bennett, Sir John.
Brogden, John.
Crouch, Joseph N.
Crouch, William Albert.
Gibson, William.
Levetus Brothers.

Earrings and head-tires.

Brogden, John.
Crouch, William Albert.
Gibson, William.

Indian jewellery (exhibited in the Indian Section).

Oulman (les Fils) & Co.
Watson & Son.

Pins, studs, &c.

Brogden, John.
Crouch, Joseph M.
Crouch, William Albert.
Gibson, William.

Rings and bracelets.

Brogden, John.
Crouch, Joseph M.
Gibson, William.

Scotch jewellery.

Aitchison, James.
Crouch, Joseph M.
Crouch, William Albert.
Marshall, W., & Co.

JEWELLERY AND PRECIOUS STONES—cont.

Unspecified.

Mackay, Cunningham, & Co.
Smith, John.

Precious stones.

Set.

Gibson, William.
Marshall, W., & Co.
Neal, John.

Unset.

Gregory, James R.

Imitations.

Damon, Robert.

JOINERS, machinery for. See under **CARPENTERING AND JOINING MACHINERY.****JUTE.** See under **LINEN, THREADS AND FABRICS.****KINDERGARTEN APPARATUS.** See under **EDUCATIONAL APPLIANCES.****LACE AND EMBROIDERY.**

Curtains.

Adams, Thomas, & Co.
Copestake, Hughes, Crampton, & Co.
Ladies' Work Society.
Royal School of Art Needlework.

Embroidery.

Allen, Charles.
Bauer, Mrs. Adolphus W.
Gardner, J., & Sons.
Heaton, John Aldam.
Jones & Willis.
Ladies' Work Society.
Marlborough, Duchess of.
Royal School of Art Needlework.
Smyth & Co.
Sweetman, C.
Vallance, Miss Fanny.
Whincup, Joseph.

Hosiery.

Adams, Thomas, & Co.
Marlborough, Duchess of.

Laces.

Adams, Thomas, & Co.
Bauer, Mrs. Adolphus W.
Kulp, H. N., & Son.
Rothschild, Lady De.
Stiebel, Kaufmann, & Co.
Copestake, Hughes, Crampton, & Co.
Howell, James, & Co.
Allen, Charles.
Copestake, Hughes, Crampton, & Co.
Marlborough, Duchess of.
Smith, George John.
Copestake, Hughes, Crampton, & Co.
Kulp, H. N., & Son.
Mallet, Henry, & Sons.

Honiton.

Irish.

Machine made.

Nets.

Adams, Thomas, & Co.
Copestake, Hughes, Crampton, & Co.
Stiebel, Kaufmann, & Co.

LAMPS AND CANDLES. See under HEATING AND LIGHTING.

LEATHER AND SKINS.

I.—HIDES AND HEAVY LEATHERS.

Machinery beltings.
See under MA-
CHINERY AND AP-
PARATUS IN GEN-
ERAL I.

For boots and shoes.

For carriages, harness,
and saddlery.

Dixon (John), Sons, & Taylor.
Flitch, J. J., & Son.
Frost, Edwin.
Paul, William.
Warmington, F. W., & Co.
Dixon (John), Sons, & Taylor.
Evans, P. & S., & Co.
Handford-Greatrex & Brothers.
Pullman, Robert & John.
Ashford, W. & G., & Winder.
Deed, John S., & Sons.
Dixon (John), Sons, & Taylor.
Frost, Edwin.
Handford-Greatrex & Brothers.
Holdin, Edward Thomas.
Hyde, Archer, & Co.
Pullman, Robert, & John.

II. —LIGHT LEATHERS AND SKINS.

Antelope, chamois,
and deer (including
wash-leather).

Calf, morocco, and
roan.

Sheep and goat.

Flitch, J. J., & Sons.
Frost, Edwin.
Kelly & Dunn.
Paul, William.
Pullman, Robert & John.
Wilson, Walker, & Co.
Cooper, Frederick Eden.
Deed, John S., & Sons.
Flitch, J. J., & Son.
Wilson, Walker, & Co.
Flitch, J. J., & Son.
Paul, William.
Pullman, Robert & John.
Wilson, Walker, & Co.

III.—FURS AND RUGS.

Furs and sables.
Rugs and wrappers.

Russ, Charles.
Clark, Son, & Morland.
Deed, John S., & Sons.
Russ, Charles.

IV. MISCELLANEOUS.

Bleaching composi-
tion.
Glue.
Hemlock bark extract.
Parchment.
Threads and sundries.
Sausage casings.
Whip strings.

Pullman, Robert & John.
Flitch, J. J., & Son.
Miller, J. & J., & Co.
Kelly & Dunn.
Ullathorne & Co.
Kelly & Dunn.
Kelly & Dunn.

LEATHER WORK AND FANCY ARTICLES.

Bags.	Cave, H. J., & Sons. Chapman, Son, & Co. Jenner & Knewstub. Jones, Thomas. Leuchars & Son. Thornhill, Walter, & Co.
Basketwork.	Cave, H. J., & Sons.
Boxes and cabinets.	Chapman, Son, & Co. Chubb & Son.
Bookslides.	Betjemann, G., & Sons.
Brooms and brushes. (For Hair Brushes and Combs, see under PERFUMERY.)	Ashford, W. & G., & Winder. Coppard, John, & Co. Horsey, John G., & Co. Kent, George Barton, & Co. Reid, Alexander, & Sons. Martin, William. Star Brush Co., Limited. Wilde, James, & Son.
Carvings and wood- ware.	Clarke, John Robert. Jacques, Zachria.
Cases, various (includ- ing dressing cases).	Ashford, W. & G., & Winder. Cave, H. J., & Sons. Chapman, Son, & Co. Dixie, Mrs. Margaret. Jenner & Knewstub. Jones, Thomas. Leuchars & Son. Thornhill, Walter, & Co.
Collars, garters, and straps.	Ashford, W. & G., & Winder.
Desks and despatch boxes.	Betjemann, G., & Sons. Chapman, Son, & Co. Jenner & Knewstub.
Fancy marbles and metal work.	Betjemann, G., & Sons.
Fancy stationery.	Betjemann, G., & Sons. Jones, Thomas. Thornhill, Walter, & Co. Ward, Marcus, & Co.
Fancy leather goods.	Chapman, Son, & Co. Jenner & Knewstub. Jones, Thomas. Leuchars & Son. Ward, Marcus, & Co.
Fans.	Jones, Thomas.
Imitation jewellery.	British Xylonite Co., Limited. Scottish Vulcanite Co., Limited.

LEATHER WORK AND FANCY ARTICLES—cont.

Irish bog oak (fancy
articles in).

Pocket books and
memoirs.

Polishes and soaps
(see also under CHE-
MICAL AND PHARMA-
CEUTICAL PRO-
DUCTS).

Purses.

Toilet glass.

Umbrellas and parasols.

Walking sticks and
whips.

Canes (professional for
African Chiefs).

Gibson, William.
Goggin, Jeremiah.
Jacques, Zachria.
McCreery, James.

Ashford, W. & G., & Winder.
Jenner & Knewstubb.

Colthurst, Symons, & Co.
Glover, Henry, Son, & Co., Limited.
Goldsworthy, T., & Sons.
Hemingway, S., & Co.
Hudson, Robert Spear.
Jarratt Brothers.
Leech & Neal.
Oakey, John, & Sons.
Marrison, R. Daniel.
Shaw, Henry, & Co.
Twelvetrees, Harper, & Son.

Ashford, W. & G., & Winder.
Chapman, Son, & Co.
Jenner & Knewstubb.

Jones, Thomas.

Clarke, John Robert.
Simmons, Simon.
Spiers Brothers.

Ashford, W. & G., & Winder.
Clarke, John Robert.
McCreery, James.
Swaine & Adeney.

Davis & Wilson.

LIFE-SAVING APPARATUS. See under **NAVIGATION AND LIFE-SAVING APPARATUS.**

LIGHTS AND LIGHTING. See under **HEATING AND LIGHTING.**

LINEN THREAD AND FABRICS (including Hempen Thread and Fabrics).

I.—FLAX AND HEMP FIBRES.

Flax.
Oakum.

York Street Flax Spinning Co.
Anglo-American Rope and Oakum
Co.
Liverpool Spun Oakum Co.

II.—THREADS AND YARNS.

Threads.

Gilling and knitting.
Linen.

Shoe.

Barbour, William, & Sons.
Barbour, William, & Sons.
Marshall & Co.
Barbour, William, & Sons.
Barron, W. J., & Sons.
Ullathorne & Co.
Bonsor, Charles.
Dawson, Mark, & Son.

Yarns.

China grass.

LINEN THREAD AND FABRICS—*cont.*II.—THREADS AND YARNS—*cont.*Yarns—*cont.*Hemp.
Linen.Barbour, William; & Sons.
Barbour, William, & Sons.
Bonsor, Charles.
County Down Flax Spinning and
Weaving Co.
Murphy & Reynolds.

III.—FLAX AND HEMP FABRICS AND PIECE GOODS.

Cloths, damasks, and
diapers.

Handkerchiefs.

Linens.

Sheetings.

Table linen.

Towelings.

Greenmount Spinning Co.
Murphy, Joseph, & Son.
Pegler, Chas., jun., & Co.
County Down Flax Spinning and
Weaving Co.
Gynet, L. H., & Co.
Jaffé Brothers.
Murphy, Joseph, & Son.
County Down Flax Spinning and
Weaving Co.
Greenmount Spinning Co.
Gynet, L. H., & Co.
Jaffé Brothers.
Marshall & Co.
Mitchell & Whytlaw.
Murphy, Joseph, & Son.
Wilford, John, & Sons.
Greenmount Spinning Co.
Murphy, Joseph, & Son.
Pegler, Chas., jun., & Co.
Andrews, Michael.
Greenmount Spinning Co.
Murphy, Joseph, & Son.
Pegler, Chas., jun., & Co.
Christy, W. M., & Sons, Limited.
Greenmount Spinning Co.

IV.—OTHER FIBROUS FABRICS.

China grass.

Jute.

Panama, pinoleum,
and Fiji rush.Bonsor, Charles.
Donisthorpe, A. R.
Barrow Flax and Jute Co., Limited.
Butchart, Lindsay, & Co.
Rothenheim, Sigmund.

LITHOGRAPHS. See ENGRAVINGS AND LITHOGRAPHS.

LOCKS AND KEYS. See under ARCHITECTURE AND BUILDINGS.

MACHINERY AND APPARATUS IN GENERAL.

SUB-DIVISIONS.

I.—STEAM ENGINES, BOILERS, AND ACCESSORIES.

II.—MOTIVE POWERS, OTHER THAN STEAM.

III.—HYDRAULICS, INCLUDING LIFTS AND CRANES, AND HOISTING AND WINDING
MACHINERY, HOWEVER MOVED.

IV.—MISCELLANEOUS MACHINERY.

MACHINERY AND APPARATUS IN GENERAL—cont.**I.—STEAM ENGINES.****A. LAND.****B. MARINE.****BOILERS.****A. LAND.****B. MARINE.****SEPARATE PARTS AND ACCESSORIES OF ENGINES AND BOILERS.**

N.B.—A large number of steam engines will be found catalogued under the heading **AGRICULTURAL MACHINERY.**

I. ENGINES (STEAM).**A. LAND.**

Horizontal compound condensing, working up to 300 horse-power, driving all the shafts in the British Section.

Automatic expansion.

High speed.

Horizontal.

Locomotive.

For road.
For tramway.

Portable.

Quick reversing.

Railway locomotives (see under Railways).

Rotary.

Traction.

Twin Cylinder.
G 918.

Galloway, W. & J., & Sons.

Tyler, Hayward, & Co.

Payton, Walter.

Bourne, John, & Co.
Clayton & Shuttleworth.
Greenwood & Batley.
Hunter & English.
May & Mountain.
Shanks, Alexander, & Son.
Tangye Brothers.

May & Mountain.
Aveling & Porter.
Fox, Walker, & Co.
Hughes' Locomotive and Tramway Engine Co., Limited.
Merryweather & Sons.

Clayton & Shuttleworth.
Garrett, Richard, & Son.

Turner, Frederick Wm.

Black, Hawthorn, & Co.
Fairlie Engine Co.
Fox, Walker, & Co.
Hughes' Locomotive and Tramway Engine Co., Limited.
L., B., & S. C. Railway Co.
Sharp, Stewart, & Co.

Kaulbach, Edward.

Clayton & Shuttleworth.
Fowler, John, & Co.
Garrett, Richard, & Son.

Bornays, Joseph.

MACHINERY AND APPARATUS IN GENERAL—cont.
I.—ENGINES (STEAM)—cont.Twin Cylinder—*cont.*

Three-Cylinder.

Six-Cylinder.

Vertical.

Vertical (fixed).

Vertical (portable).

*Miscellaneous.***B. MARINE.**

For yachts (direct acting).

For yachts (twin cylinder).

For launches.

For torpedo boats.

Marine, various.
(In Model.)**BOILERS.**

Land Engines.

Three "Galloway"
boilers, supply-
ing steam for all
machinery in the
British Section.

Portable.

Stationary.

Vertical.

Vertical multitubular.

In Model.

Marine engines.

Wigzell, Halsey, & Co.

Hydraulic Engineering Co., Limited.
Wigzell, Halsey, & Co.

Plambeck & Co.

Dodman, Alfred.

Eagles, Thomas Duncombe.
Shanks, Alexander, & Co.

Hindley, Edmund Samuel.

Nicholson, William Newzam, & Son.

Hindley, Edmund Samuel.

Nicholson, William Newzam, & Son.

Mather & Platt (Cl. 57).

Tyler, John Henry.

Wilson, Alexander, & Co.

Bernays, Joseph.

Brune & Co.

Greenwood & Batley.

Hunter & English.

Wilson, Alexander, & Co.

Wigzell, Halsey, & Co.

Penn, John, & Sons.

Galloway, W. & J., & Sons.

Garrett, Richard, & Sons.

Wigzell, Halsey, & Co.

Eagles, Thomas Duncombe.

Graham, S. J. Crook, & Co. (Execu-
tors of).

Hartley & Sugden.

Lumby, Edwin.

Marshall, Alfred, & Co.

Nicholson, William Newzam, & Sons.

Dodman, Alfred.

Scott, Walter.

Coleman & Morton.

Davies, David.

Galloway, W. & J., & Sons.

Graham, S. J. Crook, & Co. (Execu-
tors of).

Wigzell, Halsey, & Co.

MACHINERY AND APPARATUS IN GENERAL—cont.**I.—ENGINES (STEAM)—cont.****PARTS OF ENGINES.****Bearings.**Cohné, Sigismund.
Everitt, Allen, & Sons.**Castings.**

Hadfield's Steel Foundry Co.

Cocks.Dewrance, John, & Co.
Martineau & Smith.
Russell, John, & Co., Limited.
Scanlan, junior, & Co.**Cylinder linings.**Whitworth, Sir Joseph, & Co.,
Limited.**Pistons.**

Mather & Platt.

Piston coils.

Wigzell, Halsey, & Co.

Steam fittings.Johnson, Clapham, & Morris.
Martineau & Smith.
Nottingham Malleable Iron Co.,
Limited.
Phosphor Bronze Co.
Russell, John, & Co., Limited.**Steam taps.**

Wright, Sutcliffe, & Sons.

PARTS OF BOILERS.**Boiler plates.**Leeds Forge Co., Limited.
Snedshill Iron Co.**Fire boxes.**

Garrett, Richard, & Sons.

Fire-box bolts.

Broughton Copper Co., Limited.

Furnace bars.Dobson, Thomas Samuel, & Co.
Newbold, Edward.
Palmer, Morgan, & Co.
Smith, Michael Holroyd.**Tubes (see also under
METALS).**

Russell, John, & Co.

**Safety valves (mer-
curial and auxilli-
ary dead weight).**Brown, John, & Co.
Hopkinson, J., & Co.**ACCESSORIES OF EN-
GINES AND BOILERS.****Air pump buckets.**

Mather & Platt.

**Automatic expan-
sion gear.**

Shanks, Alexander, & Son.

Bearing feeler.

Alley & Maclellan.

Boiler feeder.

Pulsometer Engineering Co., Limited.

Boiler filter.

Twibill, Joseph.

Boiler preserver.

Guy, H. Augustus, & Co.

MACHINERY AND APPARATUS IN GENERAL—*cont.*
I.—ENGINES (STEAM)—*cont.***ACCESSORIES OF ENGINES AND BOILERS—*cont.***

Donkey pumps.

Fuel economisers.

(In Model).

Gauges.

Governors.

Indicators.
(speed and revolution.)
(swivel-arm.)

Injectors.

Low-water detector.

Lubricators.

Oil feeders.

Pressure recorder.

Pump engine to supply condenser.
Stoker, mechanical.

Valves.

Valve taps.

Water gauges.

Water-gauge glasses.

Water heaters.

Miscellaneous.
Driving belts.Appleby Brothers.
Staunch, Joseph.
Tyler (Hayward) & Co.Green, Edward, & Son.
Twibill, Joseph.
Wavish, James.
Boyle, Robert, & Son.Dewrance, John, & Co.
Hopkinson, J., & Co.Napier, D., & Son.
Whitley, John Robinson.Napier, D., & Son.
Faiga, Henry.

Hopkinson, J., & Co.

Marshall, Alfred, & Co.
Nottingham Malleable Iron Co.,
Limited.

House, Henry, & Co.

Dewrance, John, & Co.
May & Mountain.
Nettlefolds.

Brown, Benjamin & John, & Co.

Dewrance, John, & Co.

Hunter & English.

Smith, Michael Holroyd.

Dewrance, John, & Co.
Martineau & Smith.
Rownson, Drew, & Co.
Russell, John, & Co., Limited.
Whitley, John Robinson.

Wright, Sutcliffe, & Son.

Dewrance, John, & Co.

Moncrieff, John.

Davey, Paxman, & Co.
Green, Edward, & Son.Colver Brothers.
Corcoran, Witt, & Co.
Edwards, William.
French, John, & Co.
Goodall & Sons.
Norris, S. E., & Co.
Tallis, John, & Son.

MACHINERY AND APPARATUS IN GENERAL—*cont.*I.—ENGINES (STEAM)—*cont.**Miscellaneous—cont.*Driving belts—*cont.*

Gearing.

Packing.

(Asbestos).

Steam jointing.

Steam-joint cement.

White, John, & Son.

Galloway, W. J., & Sons.

Anderson, David, & Son.

Mather & Platt.

Terrell, William, & Sons.

Tyler (Hayward) & Co.

Protector Lamp and Lighting Co.,
Limited.Protector Lamp and Lighting Co.,
Limited.

House, Henry, & Co.

II.—MOTIVE POWERS OTHER THAN STEAM.

Air

Compressed air

(Locomotive).

Hot air (engine).

Air pump condenser.

Beaumont, Lt.-Colonel, R.E., and

Bolton, Lt.-Colonel.

Tyler (Hayward) & Co.

Tangye Bros.

Electric motors.

Howe Machine Co., Limited.

Smith, Starley, & Co.

Varley, S. Alfred.

Gas engines.

Simon, Louis, & Son.

Hydrocarbon engines.

Thomson, Sterne, & Co.

Turbines.

Gwynne & Co.

McKenzie, Thomas, & Sons, Limited.

Water-pressure engines
(Hydraulic Motors).

Hydraulic Engineering Co., Limited.

Turner, Frederick William.

III.—HYDRAULICS, WITH LIFTS, CRANES, &C., HOWEVER MOVED, including engines in which hydraulic pressure is used, as well as those constructed with a view to the supply of water or other fluids.

*a. Pumps and Pumping Engines.**b. Water Meters.**c. Lifts and Hoists.**d. Cranes, Crabs, and other Winding
and Hoisting Apparatus.**e. Pile Drivers.**f. Accessories of hydraulic engines, &c.*

III.—HYDRAULICS.

*a. Pumps and Pumping
Engines (see also
FIRE ENGINES).
Pumping engines.*

[In Model.]

Steam.

Appleby Bros.

Gwynne & Co.

Gwynne, John & Henry.

Hathorn, Davis, & Davey.

Taylor, Henry Enfield.

Gwynne, John & Henry.

Hathorn, Davis, & Davey.

Tyler (Hayward) & Co.

Lawrence & Porter.

Tangye Bros.

MACHINERY AND APPARATUS IN GENERAL—*cont.*II.—HYDRAULICS—*cont.*

Hydraulic.

[In Model.]

Pumping and
winding en-
gines (com-
bined).

Pumps.

Hydraulic (with
accessories).

Steam.

Pulsometer.

Various.

Centrifugal.

Circulating.
Double-action main.
Force.
Hand.Hydronettes, &c.
Lift.
Main and bilge.
Portable.
Rotary.

Ship.

[In model.]
Sewage, &c.

Well.

Waterwitch.

*b. Water Meters.*Hathorn, Davis, & Davey.
Hydraulic Engineering Co., Limited.
Hathorn, Davis, & Davey.
Appleby Bros.

Tweddell, Ralph Hart.

Appleby Brothers.
Hathorn, Davis, & Davey.
May & Mountain.
Merryweather & Sons.
Tangye Brothers.
Tyler (Hayward) & Co.
Wilson, Alex., & Co.
Pulsometer Engineering Co., Limi-
ted.Gwynne, John & Henry.
Scanlan, junr., & Co.
Bernays, Joseph.
Gwynne & Co.
Gwynne, John & Henry.
Lawrence & Porter.
Tuxford & Sons.
Greenwood & Batley.
Adair & Co.
Merryweather & Sons.
Duvallon & Lloyd.
Merryweather & Sons.
Haynes, Thomas, & Sons.
Merryweather & Sons.
Adair & Co.
Turner, Frederick Wm.
Hydraulic Engineering Co., Limited.
Savile Street Foundry and Engi-
neering Co., Limited.
Adair & Co.
Blundell, George Thomas & James
Walter.
Stone, J., & Co.
Mills, Robert.
Baker, Thomas.
Brackell, Christopher.
Brackell, Christopher.
Le Grand & Sutcliffe.
Merryweather & Sons.
Turner, Frederick William.
Blundell, George Thomas & James
Walter.Alley & Maclellan.
Kennedy Patent Water Meter Co.,
Limited.
Merryweather & Sons.
Pulsometer Engineering Co., Limi-
ted.
Tylor, Joseph, & Sons.

MACHINERY AND APPARATUS IN GENERAL—*cont.*III.—HYDRAULICS—*cont.*(c.) *Lifts and Hoists.*

Lifts.

Hydraulic.
Steam (direct-acting).
(Safety apparatus
for).Rosser & Russell.
Appleby Brothers.
Stannah, Joseph.Hoists.
(Hand).(Safety apparatus
for).Pickering, Jonathan.
Head, Wrightson, & Co.
Stannah, Joseph.(d.) *Cranes, Crabs,
and other Wind-
ing and Hoisting
Apparatus.*

Cranes.

Hydraulic.
Steam and hand-
power (various).
Steam.
[In model].
Hoisting.Hydraulic Engineering Co., Limited
Appleby Brothers.

Crabs.

Powis, Charles, & Co.
Priestman Brothers.
Tangye Brothers.

Capstans.

Hydraulic.

Hydraulic Engineering Co., Limited.

Jacks.

Lifting, ship, and tra-
versing (hydraulic).
Bottle, tripod screw,
and windlass screw.

Tangye Brothers.

Tangye Brothers.

Winches.

Hydraulic.
Woolwich pattern.Hydraulic Engineering Co., Limited.
Appleby Brothers.Winding and Pump-
ing Engines.

Appleby Brothers.

Windlasses.

Thompson, William Bruce.

*Accessories and Appli-
ances of Hoisting
Machinery.*

Blocks and Pulleys.

Head, Wrightson, & Co.
Pickering, Jonathan.
Tangye Brothers.
Whitley, John Robinson.(e.) *Pile Drivers.*Steam Pile Driving
Engine.

Appleby Brothers.

(f.) *Accessories of
Hydraulic En-
gines, and Hy-
draulic Works.*1. Of Hydraulic En-
gines.
Accumulators.Tweddell, Ralph Hart.
Hydraulic Engineering Co., Limited.Fluid-pressed steel
cylinders.Whitworth, Sir Joseph, & Co.,
Limited.Hydraulic Rams. Leathers for.
Packing for.Norris S. E., & Co.
Terrell, William, & Sons.

MACHINERY AND APPARATUS IN GENERAL—*cont.*
III.—HYDRAULICS—*cont.***2. Of Hydraulic Works.****Cocks.****Drilling Mains
(apparatus for).
Fittings.****Hydrants.****Stand pipes.****Stand posts.****Syphons.****Taps (high pres-
sure).****Valves.****Water bringers
(patent).**Scanlan, jun., & Co.
Martineau & Smith.
Stone, J., & Co.Martineau & Smith.
Tyler, Hayward, & Co.Alley & McLellan.
May & Mountain.
Merryweather & Sons.
Shand, Mason, & Co.
Stone, J., & Co.May & Mountain.
Merryweather & Sons.

Stone, J., & Co.

Loewenthal, Leopold.

Stones, J., & Co.
Wright, Sutcliffe, & Son.Alley & McLellan.
Martineau & Smith.
Merryweather & Sons.
Rownsom, Drew, & Co.
Stone, J., & Co.
Whitley, John Robinson.

Haynes (Thomas) & Sons.

IV.—MISCELLANEOUS MACHINERY AND APPARATUS.**Machinery.****Assay balance ma-
chine (indicating).****Beer engines.****Boot cleaning ma-
chine.****Brush making ma-
chine.****Calendering machine.****Carriage lifter (hy-
draulic).****Cement testing appa-
ratus.****Charcoal mill.****Chimney sweeping
machines.****Coal washing machine.****Coffee cleaning ma-
chine.****Coin weighing and
classifying machine.****Colour grinding ma-
chine.**

Napier, D., & Son.

Scanlan, jun., & Co.
Southall, Charles Henry.

Duggan, Thomas.

Bradford, Thomas, & Co.
Tangye Bros.de Michele, Vitale Domenico.
Lavers, Alfred Hamilton.
Tyler, John Henry.

Aahford, W. & G., & Winder.

Taylor, Henry Enfield.
Corcoran, Witt, & Co.

Napier, D., & Son.

Rolls, Schweiser, & Co.
Wenger, Albert.

MACHINERY AND APPARATUS IN GENERAL—cont.**IV.—MISCELLANEOUS MACHINERY AND APPARATUS—cont.****Machinery—cont.**

Colour mixing machine. (Potter's printer's.)	Wenger, Albert.
Colour mixing and boiling machine.	Eastwood, James, & Co., Limited.
Cork cutting machine.	Hill, Charles E., & Co.
Cork grinding mill.	Tyler, John Henry.
Disintegrating machines.	Carter, J. Harrison.
Diving apparatus.	Hydraulic Engineering Co., Limited.
Envelope making machine.	Triggs & Benson.
Filter presses, Bowling's patent.	Taylor, Joseph, and Son.
Gas exhaustor and steam engine (combined).	Goodall, C., & Son.
Gunpowder barrel making machine.	Filter Press Co., Limited.
Horse grooming machines.	Gwynne, & Co.
Iron pipe or column cutter.	Ransome, A., & Co.
Knife cleaning machines.	Wilson, Newton, & Co.
Lithographic stone grinder.	Taylor & Co.
Mangling machines. See WASHING MACHINES (<i>post</i>).	Davis's Excelsior Knife Cleaning Machine Co., Limited.
Measuring machine.	Scott, Walter.
Mechanical stoker.	Simon, Louis, & Son.
Metal testing machine.	Whitworth, Sir Joseph, & Co., Limited.
A millstone dressing machine.	Smith, Michael Holroyd.
Mixing machine.	Whitworth, Sir Joseph, & Co., Limited.
Nut and bolt forging machine.	Carter, J. Harrison.
Paint grinding mill (hand).	Hancock, F. & C.
Painting machine.	Greenwood & Batley.
Paper testing apparatus.	House, Henry, & Co.
Pipe making machine (steam).	Roberts, William.
Platinum apparatus.	de Michele, Vitale Domenico.
Pneumatic apparatus.	Whitehead, John, & Co.
Potter's printer's colour mixer.	Johnson, Matthey, & Co.
Registering turnstile.	Homfray & Co.
Rice sifting and polishing machine.	Wenger, Albert.
Road roller (steam).	Le Grand & Sutcliffe.
Size mixing and boiling machine.	Corcoran, Witt, & Co.
	Aveling & Porter.
	Eastwood, James, & Co., Limited.

MACHINERY AND APPARATUS IN GENERAL—cont.
IV.—MISCELLANEOUS MACHINERY AND APPARATUS—cont.

Sizing and drying machine.	Whitley, John Robinson.
Sewage pipe making machine (steam).	Whitehead, John, & Co.
Sheep shearing machine.	Wilson, Newton, & Co.
Shutters. Revolving shutter motion.	Salmon, Barnes, & Co.
Soldering apparatus.	Paris, James. Wright, William.
Starch mixing and boiling machine.	Eastwood, James, & Co., Limited.
Steam hammers.	Massey, B. & S.
Steam striker.	Davies, David.
Timber felling machine.	Ransome, A., & Co.
Tobacco machinery.	Meadow Foundry Co., Limited.
Tobacco cutting machine.	Coppard, John, & Co.
Treadle grindstone.	Smith, William, & Son (Cl. 51).
Tube-well driving apparatus (in model).	Le Grand & Sutcliff.
Washing and wringing and mangling machines.	—
	Bell, J. M., & Co.
	Bradford, Thomas, & Co.
	Coppard, John, & Co.
	Eastwood, James, & Co., Limited.
	Hornsby, Richard, & Son.
	Wolstencroft, Thomas, & Co.
	Nathan, David.
Weighing machine. (platform).	de Michele, Vitale Domenico.
Wire-testing apparatus.	
<i>Miscellaneous accessories of Machines.</i>	
<i>Machinery.</i>	
Appliances, various mechanical, for.	Scanlan, junr., and Co.
Blocks for.	Payton, Walter.
Brushes for.	Corcoran, Witt, & Co.
	Wilde, James, & Son.
Emery and glass cloths, blacklead, &c., for.	Goldsworthy, Thomas, & Sons.
Leather for, all kinds.	Oakey, John, & Sons.
Oil-feeders for.	Tallis, John, & Son.
	Brown, Benjamin & John, & Co.

MACHINERY, &c. USED IN THE PREPARATION OF FOOD (including machinery used in the preparation of beverages. For Flour Mills see under MILLS).
I.—MACHINERY FOR MAKING BEVERAGES.

Aërated water machinery.

Seltzogenes.

Barnett, Son, & Foster.
Codd, H., & Co.
Geraut, Eugene, & Co.
Tyler (Hayward) & Co.
Tylor, Joseph, & Sons.

Geraut, Eugene, & Co.

MACHINERY, &c. USED IN THE PREPARATION OF FOOD—cont.**I.—MACHINERY FOR MAKING BEVERAGES—cont.**

Bottling and corking
machines.

Aërated water bottles.

Stoppers (patent) for
aërated waters.

Stopper (capsule) for
liquors.
Brewing apparatus.

Brewing, attomperators
for.
Evaporating apparatus.

Malting apparatus.

Mashing machines (au-
tomatic).
Refrigerators, capil-
lary, for brewers, &c.
Still (Collingridge's).

Brewing appliances.
Cask stands.
Wine press.

Gerant, Eugene, & Co.
Tyler (Hayward) & Co.

Aire and Calder Glass Bottle Co.
(Edgar Breffit & Co.).
Barnett, Son, & Foster.
Gerant, Eugene, & Co.

Codd, H., & Co.
Rose, L., & Co.
Sanders, T. H., & Co.
Tyler (Hayward) & Co.

Barnett, Son, & Foster.

Corcoran, Witt, & Co.
Lawrence & Co.

Lawrence & Co.

Buchanan, G., & Co.

Corcoran, Witt, & Co

Lawrence & Co.

Lawrence & Co.

Lawrence & Co.

Coppard, John, & Co.

Ladd, John H., & Co.

II.—MACHINERY FOR PREPARING FOOD.

Cocoa machinery.

Coffee cleaning ma-
chine.
Coffee mill.

Mustard machinery.

Paddy pounding ma-
chines.

Rice separating, sifting,
whitening, and po-
lishing machines.
Starch machinery.

Ice making machines.

Refrigerating appa-
ratus.

Refrigerators.

Corcoran, Witt, & Co.

Corcoran, Witt, & Co.

Lloyd, Thomas, & Sons.

Corcoran, Witt, & Co.

Corcoran, Witt, & Co.

Corcoran, Witt, & Co.

Corcoran, Witt, & Co.

Duvallon & Lloyd.
Siebe & Gorman.
Wenham Lake Ice Co.

Lawrence & Co.
Tallerman, Daniel.

Hilton, William Henry.
Wenham Lake Ice Co.

MACHINERY, &c. USED IN THE PREPARATION OF FOOD—*cont.*II.—MACHINERY FOR PREPARING FOOD—*cont.*

Refrigerators (portable) for household use.

Water coolers.

Filters.

Filters (Major Crease's system).

Machinery, household, a selection.

Apparatus for making infusions.

Apple paring machines.

Bread crumbing mill.

Bread kneading machine.

Bread making machine.

Coffee mills.

Currant cleaning machine.

Egg beating machine.

Fruit and potato slicer.

Mincing machines.

Potato paring machines.

Raisin seeding machine.

Sausage machines.

Sugar chopping machine.

Sugar grinding mill.

Baking powders. See under CHEMICAL AND PHARMACEUTICAL PRODUCTS.

Hot water boilers.

Boiler stove collectors.

Wire sieves.

Hilton, William Henry.

Cheavin, George.

Burney & Co.

Cheavin, George.

Silicated Carbon Filter Co.

Stiff, James, & Sons.

Van Fraag, Alex., & Co.

Gardner, John, & Sons.

Hilton, William Henry.

Scott, Walter.

Etzensberger, Robert Ulrich.

Coppard, John, & Co.

Hilton, William Henry.

Hancock, F., & Co.

Richmond & Chandler.

Lloyd, Thomas, & Sons.

Davis's Excelsior Knife Cleaning Machine Co., Limited.
Smith, William, & Son.

Hilton, William Henry.

Coppard, John, & Co.

Coppard, John, & Co.
Davis's Excelsior Knife Cleaning Machine Co., Limited.
Coppard, John, & Co.
Hilton, William Henry.

Hilton, William Henry.

Coppard, John, & Co.
Davis's Excelsior Knife Cleaning Machine Co., Limited.
Smith, William, & Son.

Hancock, F., & Co.

Graham, S. J., Crook, & Co. (Executors of the late).
Van Fraag, Alex., & Co.

Corcoran, Witt, & Co.

MACHINE TOOLS. (For Machine Tools for Carpenters and Joiners see under CARPENTERING AND JOINING MACHINERY.)**Machine Tools.**

For engine and locomotive work.	Greenwood & Batley.
Angle and tee bending and straightening machine.	Sharp, Stewart, & Co., Limited.
Cork-cutting machine.	Tweddell, Ralph Hart.
Die cutting machines.	Hill, Charles E., & Co.
Drilling machines, portable.	Glanville, Albert Francis.
Drilling machine (Radial arm).	Embleton, Mackenzie, & Co.
Lathes, brass finisher.	Smith & Coventry.
Lathes, boring and turning.	Smith & Coventry.
Lathes, chasing.	Embleton, Mackenzie, & Co.
Lathes, foot.	Smith & Coventry.
Lathes, potter's.	Whitworth, Sir Joseph, & Co., Limited.
Lathes, screw cutting.	Wenger, Albert.
Lathe slide-rest (in model).	Embleton, Mackenzie, & Co.
Measuring machine.	Smith & Coventry.
Milling machines (American).	Horn, Thomas Story.
Planing machine.	Whitworth, Sir Joseph, & Co., Limited.
Pulley grinding machine.	Smith & Coventry.
Punching, shearing, and angle and bar cutting machine.	Smith & Coventry.
Riveters, hydraulic, portable and stationary.	Thomson, Sterne, & Co., Limited.
Saw (circular saw), machine for cutting iron and steel.	Tweddell, Ralph Hart.
Screwing apparatus.	Tweddell, Ralph Hart.
Screwing and tapping machine.	Western & Co.
Sharpening machines.	Whitworth, Sir Joseph, & Co., Limited.
American twist drill sharpening machine.	Embleton, Mackenzie, & Co.
Long-knife sharpening machine.	Smith & Coventry.
Moulding cutter sharpening machines.	Thomson, Sterne, & Co., Limited.
Plane iron sharpening machine.	Thomson, Sterne, & Co., Limited.
Saw sharpening machine.	Thomson, Sterne, & Co., Limited.
Circular saw sharpening machine.	Robinson, Thomas, & Son.
Screw tap sharpening machines.	Worsam, Samuel, & Co.
	Robinson, Thomas, & Son.
	Reynolds, F. W., & Co.
	Robinson, Thomas, & Son.
	Worsam, Samuel, & Co.
	Robinson, Thomas, & Son.
	Thomson, Sterne, & Co., Limited.

MACHINE TOOLS—cont.

<i>Machine Tools—cont.</i>	Shaping machine.	Embleton, Mackenzie, & Co.
	Spur-wheel cleaning machine.	Thomson, Sterne, & Co., Limited.
	Stone moulding and planing machine.	Western & Co.
	Universal grinding machine.	Thomson, Sterne, & Co., Limited.
	Wheel cutting machine.	Jackson & Brother.
	Wheel making machine.	Ransome, A., & Co.
	Wheel moulding machines.	Jackson & Brother.
	(Drawings of wheel making machinery).	Tough, John.
<i>Miscellaneous accessories.</i>		Jackson & Brother.
Dividing apparatus (J. C. Scott's).		Whitworth, Sir Joseph, & Co., Limited.
Gauges, standard and screw.		Smith & Coventry.
Grindstone (patent).		Burys & Co., Limited.
Machine knives.		Colver Brothers.
		Fussell, James, Sons, & Co.
Surface plates.		Whitworth, Sir Joseph, & Co., Limited.
Tool holders.		Smith & Coventry.
Workshops (photographs of).		Whitworth, Sir Joseph, & Co., Limited.

MAPS AND ATLASES. See under **EDUCATIONAL APPLIANCES.**

MATHEMATICAL AND PHILOSOPHICAL INSTRUMENTS.

Air pumps.	Darton, F., & Co.
Achromatic condenser (for microscopes).	Swift, James.
Anemometers.	Negretti & Zambra.
Apparatus for analysis of water and gas.	Cetti, E., & Co.
Barometers.	Cetti, E., & Co.
	Darton, F., & Co.
	Dollond & Co.
	Negretti & Zambra.
Barometograph (for use of the Royal Commission).	Pillischer, Moritz.
Deep-sea sounding implements.	Negretti & Zambra.
Electric lamps.	Darton, F., & Co.
Equatorial stands (new).	Home & Thornthwaite.
Galvanic batteries.	Darton, F., & Co.

MATHEMATICAL AND PHILOSOPHICAL INSTRUMENTS—*cont.*

Harmonographs.	Tisley, S. C., & Co.
Hydrometers.	Negretti & Zambra.
Hygrometers.	Negretti & Zambra.
Instruments, photo- graphs of.	Grubb, Howard.
Kalcdoscope.	Thomas, Antoine E.
Lenses.	Crouch, Henry. Dallmeyer, John Henry. Ross & Co.
Levels.	Dollond & Co. Negretti & Zambra.
Magic lantern, new objective for.	Dallmeyer, John Henry.
Magic lantern, trans- parencies.	York, Frederick.
Magic lantern, views.	England, William.
Mathematical instru- ments.	Dollond & Co. Pillischer, Moritz.
Mercurial pump.	Cetti, E., & Co.
Meteorological instru- ments.	Negretti & Zambra. Pillischer, Moritz.
Microscopes.	Crouch, Henry. Dallmeyer, John Henry. Dollond & Co. Negretti & Zambra. Pillischer, Moritz. Ross & Co. Swift, James.
Microscopes, sub-stage appliance for.	Swift, James.
Microscopic apparatus.	Crouch, Henry.
Microscopic lamps.	Swift, James.
Microspectroscope.	Darton, F., & Co. Swift, James.
Optical instruments.	Crouch, Henry. Dallmeyer, John Henry. Dollond & Co. Horne & Thornthwaite. Negretti & Zambra. Pillischer, Moritz. Ross & Co. Ross, Thomas, & Co. Swift, James.
Philosophical instru- ments.	Cetti, E., and Co.

MATHEMATICAL AND PHILOSOPHICAL INSTRUMENTS—cont.

Polariscope glasses.	Horne & Thornthwaite.
Reckoning machine.	Hedley, F. H.
Scientific instruments.	Boyd. Pillischer, Moritz.
Sextants.	Dollond & Co. Negretti & Zambra.
Spectrum apparatus.	Darton, F., & Co.
Spectroscopes.	Dallmeyer, John Henry. Grubb, Howard.
Spectroscopes (chemical).	Darton, F., & Co.
Surveying instruments.	Pillischer, Moritz.
Telephones and apparatus.	Bell, Alex. Graham.
Telescopes.	Dallmeyer, John Henry. Dollond & Co. Grubb, Howard. Ross & Co. Ross, Thomas, & Co.
Telescope (reflecting).	Horne & Thornthwaite.
Theodolites.	Dollond & Co. Negretti & Zambra.
Thermometers.	Cetti, E., & Co. Negretti & Zambra.
Tide calculating machine.	Légé, A., & Co.
Tide gauge.	Légé, A., & Co.
Tourists' glasses.	Dallmeyer, John Henry.
Tourmalines (artificial).	Horne & Thornthwaite.

MEDICINE AND HYGIENE.

Medicine cases, portable.	Kirby, H. & T., & Co. Savory & Moore.
Castor oil (almodized).	Leslie & Co., Limited.
Cod liver oil (almodized).	Leslie & Co., Limited.
Clinical thermometers.	Negretti & Zambra.
Medical batteries.	Darton, F., & Co. Mayer & Meltzer.
Surgical appliances.	Mayer & Meltzer. Savory & Moore.

MEDICINE AND HYGIENE—cont.

Hospital and surgical
articles (in india-
rubber).

Hospital construction,
model of.

Hospital bedstead.

Model of a surgical
bed.

Asylum bedstead.

Bed rest.

Acoustic instruments
and contrivances.

Bandages.

Bougies, medicated.

Cotton wool, carded,
for surgical pur-
poses.

Couch.

Couches (grasshopper).

Dental instruments.

Dentists' materials.

Electric motors for
driving dental en-
gines.

Enemas.

Enema syringes.

Lint.

Lint (marine).

Plaisters.

Pessaries, medicated.

Stypium.

Surgical instruments.

Surgical instruments
(fusee chains for).

Surgical elastic stock-
ings.

Surgical needles.

G 913.

Macintosh, Charles, & Co.

Greenway, Henry.

Allen, Thomas.

Porter, Surgeon - Major Joshua
Henry.

Allen, Thomas.

Allen, Thomas.

Rein, Frederick Chas., & Son.

Robinson & Sons.

Rein, Frederick Chas., & Son.

Gerrard, A. W.

Robinson & Sons.

Harris, George Henry.

Hamilton, William.

Gray, Joseph, & Co.

Jamieson, W. & J.

Jamieson, W. & J.

Lemale, T., & Co.

Howe Machine Co., Limited.

Rein, Frederick Chas., & Son.

Gray, Joseph, & Co.

Robinson & Sons.

Anglo-American Rope and Oakum
Co.

Leslie & Co., Limited.

Mather, William.

Gerrard, A. W.

Liverpool Spun Oakum Co.

Gray, Joseph, & Co.

Mayer & Meltzer.

Rein, Frederick Chas., & Son.

Shick, Frederick.

Longdon, F., & Co.

Hayes, Crossley, & Co

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MEDICINE AND HYGIENE—cont.Surgical needles—*cont.*Ambulance, hill dhooly,
model of.Ambulance, model of
railway van fitted.

Army surgeon's bag.

Splints (extemporised).

Book on military sur-
gery.Dispensaries (minia-
ture) for field and
cottage hospitals.

Veterinary instruments.

Abdominal belts.

Anatomical belts.

Artificial breasts.

Artificial limbs (arms
and legs).

Artificial teeth.

Chest protectors.

Corn plaisters.

Court plaister.

Crutches.

Elastic accouchment
belts.

Feeding bottles.

Inhalers.

Instruments for defor-
mities.

Knee caps (surgical).

Magneto-electric ma-
chines.

Respirators.

Speaking trumpets.

Teeth (mineral).

Smith, James, & Son.

Thomas, S., & Son.

Woodfield, William, & Sons.

Porter, Surgeon-Major Joshua
Henry.Porter, Surgeon-Major Joshua
Henry.

Mayer & Meltzer.

Porter, Surgeon-Major Joshua
Henry.Porter, Surgeon-Major Joshua
Henry.

Kirby, H. & T., & Co.

Gray, Joseph, & Co.

Rein, Frederick Chas., & Son.

Rothenheim, Sigmund.

Rein, Frederick Chas., & Son.

Rein, Mrs. Frederick Chas.

Rein, Mrs. Frederick Chas.

Mayer & Meltzer.

Gabriel, Messrs.

Rothenheim, Sigmund.

Mather, William.

Mather, William.

Rein, Frederick Chas., & Son.

Longdon, F., & Co.

Aire & Calder Glass Bottle Co.
(Edgar Breffit & Co.)

Mather, William.

Sanders, H. G., & Son.

Rein, Frederick Chas., & Son.

Rein, Frederick Chas., & Son.

Longdon, F., & Co.

Gray, Joseph, & Co.

Rein, Frederick Chas., & Son.

Rein, Frederick Chas., & Son.

Rothenheim, Sigmund.

Rein, Frederick Chas., & Son.

Lemale, T., & Co.

MEDICINE AND HYGIENE—cont.

Teeth, stopping for.

Trusses.

Jameson, W. & J.

Gray, Joseph, & Co.
Rein, Frederick Chas., & Son.
Rein, Mrs. Frederick Chas.**METALLURGY.** See MINING AND METALLURGY.**METALLURGICAL MACHINERY.** See MINING AND METALLURGICAL MACHINERY.**METALS.** (See also MINING, ARCHITECTURE, CIVIL ENGINEERING, AND PUBLIC WORKS.)

TABLE OF SUBDIVISIONS.

1. *Metals unwrought.*
2. *Metals, cast and wrought.*
3. *Metals, manufactured.*
4. *Wires and drawn products.*

1. *Metals unwrought.*

Pig iron.

5. *Metal furniture.*
6. *Hollow ware.*
7. *Hardware, Ironmongery, &c.*
8. *Miscellaneous.*

Emmens & Co., Limited; 134, Palmerston Buildings, Bishopsgate Street Within, London.

Snelus, George James; Workington, Cumberland.

Whitwell, Thomas; Thornaby Iron Works, Stockton-on-Tees.

Bush & De Soyres; Bristol Iron Foundry, St. Philips, Bristol.

Granville, the Earl, K.G.; Shelton Colliery and Iron Works, Stoke-upon-Trent.

Harrison, Ainstie, & Co.; Newland Furnace, Ulverston, Lancashire.

Landore-Siemens Steel Co., Limited; 3, Westminster Chambers, London.

Lilleshall & Co.; Prior's Lee Hall, near Shifnal, Shropshire.

North Lonsdale Iron and Steel Co., Limited; Ulverston, Lancashire.

North of England Iron Manufacturers' Association, and Cleveland Ironmasters' Association; Royal Exchange, Middlesborough.

Seebohm & Dieckstahl; Dannemora Steel Works, Willey Street, Wicker, Sheffield.

Wigan Coal and Iron Co., Limited; Wigan.

West Cumberland Iron & Steel Co., Limited; Workington, Cumberland.

Tayler, D. F., & Co.; New Hall Works, George Street, Birmingham.

Everitt, Allen, & Sons; Kingston Metal Works, Birmingham.

Vivian, H. H., & Co.; 46, George Street, St. Paul's, Birmingham.

Winfield, R. W., & Co.; Cambridge Street Works, Birmingham.

Broughton Copper Co., Limited; Broughton Copper Works, Manchester.

2. *Metals, cast and wrought.*

Brass.

Sheets.

Tubes.

METALS—cont.

2. Metals, cast and wrought—cont.

Brass—cont.

Brass, white.

Ingots.

Bronze.

Bars and rods, sheets and plates, tubes.

Composite.

Patent sheathing.

Copper.

Sheet.

Tubes.

German silver.

Sheets.

Iron.

a. Plain or galvanized.

Bars and rods.

Sheets and plates.

Everitt, Allen, & Sons; Kingston Metal Works, Birmingham.

Russell, John, & Co., Limited; Alma Tube Works, Walsall, Staffordshire.

Vivian, H. H., & Co.; 46, George Street, St. Paul's, Birmingham.

Winfield, R. W., & Co.; Cambridge Street Works, Birmingham.

Parsons, P. M.; Lombard Street, Southwark, London.

Fox, Charles, & Son; 15, Old Change, Cannon Street, London.

Parsons, P. M.; Lombard Street, Southwark, London.

Phosphor Bronze Co., Limited; 139, Cannon Street, London.

Dewrance, John, & Co.; 176, Great Dover Street, Southwark, London.

Everitt, Allen, & Sons; Kingston Metal Works, Birmingham.

Francis, Thomas, & Co.; Lion Nail Works, Sparkbrook, Birmingham.

Broughton Copper Co., Limited; Broughton Copper Works, Manchester.

Everitt, Allen, & Sons; Kingston Metal Works, Birmingham.

Winfield, R. W., & Co.; Cambridge Street Works, Birmingham.

Broughton Copper Co., Limited; Broughton Copper Works, Manchester.

Everitt, Allen, & Sons; Kingston Metal Works, Birmingham.

Vivian, H. H., & Co.; 46, George Street, St. Paul's, Birmingham.

Winfield, R. W., & Co.; Cambridge Street Works, Birmingham.

Vivian, H. H., & Co.; 46, George Street, St. Paul's, Birmingham.

Wiggin, Henry, & Co.; 55, George Street, Parade, Birmingham.

Bird, Wm., & Co.; 2, Laurence Pountney Hill, London.

Fussell, James, Sons, & Co.; Mells Ironworks, near Frome, Somerset.

Leeds Forge Co., Limited; Armley Road, Leeds.

Nettlefolds; 16, Broad Street, Birmingham.

Snedshill Iron Co.; Snedshill Iron Works, near Shifnal, Shropshire.

Ash & Lacy; Meriden Street, Birmingham.

Baldwin, E. P. & W.; Wilden Iron and Tin Plate Works, near Stourport.

METALS—cont.

3. Metals, cast and wrought—cont.

Iron—cont.

	Tubes.	Braby, Frederick, & Co. ; 356 to 360, Euston Road, London.
b. Coated Tin and Terne Metal.	Sheets and plates.	Hatton, Sons, & Co. ; Broadwaters Tin Plate Works, Kidderminster.
		Leeds Forge Co. ; Limited, Armley Road, Leeds.
		Sheiton Bar Iron Co. ; Stoke-upon-Trent.
		Snedshill Iron Co. ; Snedshill Iron Works, near Shifnal, Shropshire.
		Wright, W. B., & Co. ; St. Philip's, Bristol.
		Winfield, R. W., & Co. ; Cambridge Street Works, Birmingham.
		Anglo-Russian Iron and Tin Plate Co., Limited ; 18, New Bridge Street, London.
		Ash & Lacy ; Meriden Street, Birmingham.
		Baldwin, E. P. & W. ; Wilden Iron and Tin Plate Works, near Stourport.
		Hatton, Sons, & Co. ; Broadwaters Tin Plate Works, Kidderminster.
		Johnson, Clapham, & Morris ; 24 & 26, Lever Street, Manchester.
		Leach, Flower, & Co. ; Melyn Tin Works, Neath, South Wales.
		Morewood, E., & Co. ; Llanelly, South Wales.
		Swansea Tin Plate Co. ; Tin Plate Works, Swansea.
	Tubes (lead-encased).	Gordon, A. McC., & Co. ; 59 to 61, Bridgewater Street, Liverpool.
c. Coated Oxide (anti-rust).		Barff, Frederick S. ; Catholic University College, Kensington, London.
Nickel.	Plates.	Vivian, H. H., & Co. ; 46, George Street, St. Paul's, Birmingham.
		Wiggin, Henry, & Co. ; 55, George Street, Parade, Birmingham.
Steel.		Beardshaw, Herbert ; Prior Court, Sheffield.
		Bird, Wm., & Co. ; 2, Laurence Pountney Hill, London.
		Burys & Co., Limited ; Regent Works, Sheffield.
		Hadfield's Steel Foundry Co. ; Hecla Steel Foundry, Attercliffe, Sheffield.
		Hattersley, E. J., & Co. ; Limited, Peacroft, Sheffield.
		Jonas, Meyer, & Colver ; Continental Steel Works, Sheffield.
		Jowitt, Thomas, & Sons ; Scotia Steel Works, Sheffield.
		Landore-Siemens Steel Co., Limited ; 8, Westminster Chambers, London.
		North of England Iron Manufacturers' Association, and Cleveland Ironmasters' Association ; Royal Exchange, Middlesborough.

METALS—cont.**2. Metals, cast and wrought—cont.
Steel—cont.****Bars and Rods, Bands
and Coils.**

Snelus, George J.; Workington, Cumberland.
 Spencer, J. R., & Son; Albion Steel Works, Sheffield.
 Turton, Thomas, & Sons; Sheaf Works, Sheffield.
 Whitworth, Sir Joseph, & Co., Limited; 44, Chorlton Street, Manchester.
 Andrew, John Henry, & Co.; Toledo Steel Works, Neepsend, Sheffield.
 Bedford, John, & Sons; Lion Works, Sheffield.
 Brown, Bayley, & Dixon, Limited; Sheffield Steel and Iron Works, Sheffield.
 Fussell, James, Son, & Co.; Mells Ironworks, near Frome, Somerset.
 Guy, H. Augustus, & Co.; 11, Cloak Lane, Cannon Street, London.
 Hattersley, E. J., & Co., Limited; Peacroft, Sheffield.
 Jessop, William, & Sons, Limited; Brightside Works, Sheffield.
 Jowitt, Thomas, & Sons; Scotia Steel Works, Sheffield.
 Seebohm & Dieckstahl; Dannemora Steel Works, Willey Street, Wicker, Sheffield.
 Spencer, Walter, & Co.; Midland Steel Works, Rotherham.
 Wardrobe & Smith; Meadow Steel Works, Well Meadow Street, Sheffield.

Sheets and Plates.

West Cumberland Iron & Steel Co., Limited; Workington, Cumberland.
 Andrew, John Henry, & Co.; Toledo Steel Works, Neepsend, Sheffield.
 Bedford, John, & Sons; Lion Works, Sheffield.
 Brown, Bayley, & Dixon, Limited; Sheffield Steel and Iron Works, Sheffield.
 Hattersley, E. J., & Co., Limited; Peacroft, Sheffield.
 Jessop, William, & Sons, Limited; Brightside Works, Sheffield.
 Jowitt, Thomas, & Sons; Scotia Steel Works, Sheffield.
 Landore-Siemens Steel Co., Limited; 8, Westminster Chambers, London.
 West Cumberland Iron & Steel Co., Limited; Workington, Cumberland.
 Fussell, James, Sons, & Co.; Mells Ironworks, near Frome, Somerset.
 Nottingham Malleable Iron Co., Limited; Kirke White Street, Nottingham.

Steel and Iron combined.**Miscellaneous.**

Read, Jefferson; Louisa Street, Parade, Birmingham.

METALS—cont.

2. *Metals, cast and wrought*—cont.Tm. See IRON,
COATED.

Zinc.

Sheets and Plates.

3. *Metals, manufactured.*

Angles and Tees.

Bearings.

Brass Foundry.

Boiler plates.

Boiler furnace flues.

Girders.

Manufacturing plant
(see also VARIOUS
MANUFACTURES).Mining plant (see also
MINING).Railway plant (see
also RAILWAYS).

Rivets, bolts, and nuts.

Steel chains.

Ash & Lacy; Meriden Street, Birmingham.

Braby, Frederick, & Co.; 356 to 360, Easton Road, London.

Landore-Siemens Steel Co., Limited; 3, Westminster Chambers, London.

Russell, John, & Co.; Alma Tube Works, Walsall, Staffordshire.

Shelton Bar Iron Co.; Stoke-upon-Trent.

Snedshill Iron Co.; Snedshill Iron Works, near Shifnal, Shropshire.

Cohné, Sigismund; 13, Sise Lane, London.

Everitt, Allen, & Sons; Kingston Metal Works, Birmingham.

Tylor, Joseph, & Sons; 2, Newgate Street, London.

Winfield, R. W., & Co.; Cambridge Street Works, Birmingham.

Leeds Forge Co., Limited; Armley Road, Leeds.

Snedshill Iron Co.; Snedshill Iron Works, near Shifnal, Shropshire.

Leeds Forge Co., Limited; Armley Road, Leeds.

Shelton Bar Iron Co.; Stoke-upon-Trent.

Bird, William, & Co.; 2, Laurence Pountney Hill, London.

Bird, William, & Co.; 2, Laurence Pountney Hill, London.

Bird, William, & Co.; 2, Laurence Pountney Hill, London.

Brown, Bayley, & Dixon, Limited; Sheffield Steel and Iron Works, Sheffield.

Landore-Siemens Steel Co., Limited; 3, Westminster Chambers, London.

Leeds Forge Co., Limited; Armley Road, Leeds.

Shelton Bar Iron Co.; Stoke-upon-Trent.

Broughton Copper Co., Limited; Broughton Copper Works, Manchester.

Francis, Thomas, & Co.; Lion Nail Works, Sparkbrook, Birmingham.

Nettlefolds; 16, Broad Street, Birmingham.

Patent Nut & Bolt Co., Limited; London Works, near Birmingham.

Brown, Bayley, & Dixon, Limited; Sheffield Steel and Iron Works, Sheffield.

Sheffield.

METALS—*cont.*

3. *Metals, manufactured—cont.*
- Saws, circular. Beardshaw, Herbert; Prior Court, Sheffield.
Colver Brothers; Pilot Works, Sheffield.
- Saws, machine. Bedford, John, & Sons; Lion Works, Sheffield.
- Steam fittings. Nottingham Malleable Iron Co., Limited; Kirke White Street, Nottingham.
- (a.) Brass. Johnson, Clapham, & Morris; 24 and 26, Lever Street, Manchester.
- (b.) Bronze. Phosphor Bronze Co., Limited; 139, Cannon Street, London.
- (c.) Gun metal. Martineau & Smith.
- Tanks. Russell, John, & Co., Limited.
Burney & Co.; Milwall Docks, London.
4. *Wires and drawn products.*
- Brass.
- Pins. Corcoran, Witt, & Co.
Everitt, Allen, & Sons; Kingston Metal Works, Birmingham.
Houghton, James, & Son; Townsend Wire Mills, Turner Street, Warrington, Lancashire.
Houghton, William D.; Sankey Wire Mills, Warrington.
- Copper. Tayler, D. F., & Co.; New Hall Works, George Street, Birmingham.
- Ropes and cord. Turner, R., & Sons; Steam Mills, Redditch.
- Lightning conductors. Everitt, Allen, & Sons; Kingston Metal Works, Birmingham.
- Nails. Tayler, D. F., & Co.; New Hall Works, George Street, Birmingham.
- Composite metal. Winfield, R. W., & Co.; Cambridge Street Works, Birmingham.
- Newall, R. S.; Gateshead-on-Tyne.
- Shaw, John; Wire Rope and Fencing Works, Soho Street, Sheffield.
- Newall, R. S.; Gateshead-on-Tyne.
- Shaw, John; Wire Rope and Fencing Works, Soho Street, Sheffield.
- Sanderson & Co.; Huddersfield.
- Warrington Wire Rope Works Co., Limited; Bewsey Ropery, Warrington.
- Everitt, Allen, & Sons; Kingston Metal Works, Birmingham.
- Stone, J., & Co.; Deptford, London.
- Parsons, P. M.; Lombard Street, Southwark, London.
- Phosphor Bronze Co., Limited; 139, Cannon Street, London.
- Wiggin, Henry, & Co.; 55, George Street, Parade, Birmingham.
- Everitt, Allen, & Sons; Kingston Metal Works, Birmingham.

METALS—cont.**4. Wires and drawn products—cont.****Composite metal—cont.****Iron and steel (plain, galvanised, and tin-coated).****Nails—cont.****Ropes, hawsers, rigging, cords, &c.****Wire Fencing, standards and appliances.****Wire Netting.****Wire cloth (for mining and mills).****Nails.**

Stone, J., & Co.; Deptford, London.

Everitt, Allen, & Sons; Kingston Metal Works, Birmingham.

Houghton, James, & Son; Townsend Wire Mills, Turner Street, Warrington, Lancashire.

Houghton, William D.; Sankey Wire Mills, Warrington.

Tayler, D. F., & Co.; New Hall Works, George Street, Birmingham.

Winfield, R. W., & Co.; Cambridge Street Works, Birmingham.

Bird, William, & Co.; 2, Laurence Pountney Hill, London.

Glover, William James, & Co.; St. Helen's, Lancashire.

Houghton, William D.; Sankey Wire Mills, Warrington.

Newall, R. S.; Gateshead-on-Tyne.

Shaw, John; Wire Rope and Fencing Works, Soho Street, Sheffield.

Smith, Frederick, & Co.; Caledonia Works, Halifax.

Smith, William, & Son; Dallam Wire Works, Warrington.

Warrington Wire Rope Works Co., Limited; Bewsey Ropery, Warrington.

Hill & Smith, Brierley Hill, near Dudley.

Nettlefolds; 16, Broad Street, Birmingham.

Shaw, John; Wire Rope and Fencing Works, Soho Street, Sheffield.

Ash & Lacy; Meriden Street, Birmingham.

Barnard, Bishop, & Barnards; Norfolk Iron Works, Norwich.

Boulton & Paul; Rose Lane Works, Norwich, Norfolk.

Braby, Frederick, & Co.; 356 to 360, Euston Road, London.

Brown, J. B., & Co., 90, Cannon Street, London.

Hill & Smith, Brierley Hill, near Dudley.

Johnson, Clapham, & Morris; 24 and 26, Lever Street, Manchester.

Corcoran, Witt, & Co.

Greening, N., & Sons; Warrington.

Johnson, Clapham, & Morris; 24 and 26, Lever Street, Manchester.

Francis, Thomas, & Co.; Lion Nail Works, Sparkbrook, Birmingham.

Nettlefolds; 16, Broad Street, Birmingham.

METALS—cont.

4. *Wires and drawn products*—cont.
Iron and steel (plain, galvanised, and tin-coated)—cont.

Needles (sewing machine and others) and pins.

Hooks. (See also FISH-HOOKS).
Miscellaneous wires.

Small wire wares (hair-pins, hooks and eyes, crochet hooks, fancy nails, &c.).

5. *Metal furniture, &c.*

Avery, William, & Son; Headless Cross, Redditch.
Bartleet, William, & Sons; Abbey Mills, Redditch.
Chambers, G., & Co.; Old Factory, Redditch.
Clarke, Henry, & Co.; 17, Gracechurch Street, London.
Cooke Brothers; Constitution Hill, Birmingham.
Hayes, Crossley, & Co.; 153, Cheapside, London.
Kirby, Beard, & Co.; 18, Cannon Street, London.
Milward, Henry, & Sons; Washford Mills, Redditch.
Smith, James, & Son; Astwood Bank, near Redditch.
Smith, John Wright; 121, Belgrave Gate, Leicester.
Smith, Starley, & Co., Limited; Trafalgar Works, Coventry.
Tayler, D. F., & Co.; New Hall Works, George Street, Birmingham.
Thomas, S., & Sons; British Needle Mills, Redditch.
Turner, R., & Sons; Steam Mills, Redditch.
Woodfield, William, & Sons; Easmore Works, Redditch.
Nettlefolds; 16, Broad Street, Birmingham.
Houghton, William D.; Sankey Wire Mills, Warrington.
Johnson, Clapham, & Morris; 24 and 26, Lever Street, Manchester.
Smith, William, & Son; Dallam Wire Works, Warrington.
Bartleet, William, & Sons; Abbey Mills, Redditch.
Cooke Brothers; Constitution Hill, Birmingham.
Hayes, Crossley, & Co.; 153, Cheapside, London.
Kirby, Beard, & Co.; 18, Cannon Street, London.
Smith, James, & Son; Astwood Bank, near Redditch.
Tayler, D. F., & Co.; New Hall Works, George Street, Birmingham.
Thomas, S., & Sons; British Needle Mills, Redditch.
Woodfield, William, & Sons; Easmore Works, Redditch.
Barnard, Bishop, & Barnards; Norfolk Iron Works, Norwich.
Peyton & Peyton, Bordeasley Works, Birmingham.

METALS—cont.

5. *Metal furniture, &c.*
—cont.6. *Hollow ware.*Iron (galvanized,
tinned, enamelled,
&c.).

Baths.

Canisters.

Cooking vessels.

7. *Hardware, Iron-
mongery, &c. (see
also TOOLS).*Brass cabinet foundry,
screws, &c.

Swing-glass fittings.

Taps.

Copper screws, &c.

Britannia metal goods.

German silver goods.

Domestic and general
ironmongery.

Builders' ironmongery.

Castors.

Winfield, R. W., & Co.; Cambridge
Street Works, Birmingham.Braby, Frederick, & Co.; 356 to
360, Euston Road, London.Clark, T. & C., & Co.; Shakespeare
Foundry, Wolverhampton.Hatton, Sons, & Co.; Broadwaters
Iron and Tin-plate Works, Kid-
derminster.Hilton, William Henry; 112, Upper
Portland Street, Southport, Lanca-
shire.Leach, Flower, & Co.; Melyn Tin
Works, Neath, South Wales.Marston, John; Paul Street Works,
Wolverhampton.Siddons, Joseph, & Jesse; Hill
Top, West Bromwich, Staffor-
shire.Swansea Tin-plate Co.; Tin-plate
Works, Swansea.Wright, W. B., & Co.; St. Philips,
Bristol.Clark, T. & C., & Co.; Shake-
speare Foundry, Wolverhampton.Anglo-Russian Iron and Tin Plate
Co., Limited; 18, New Bridge
Street, London.Clark, T. & C., & Co.; Shakespeare
Foundry, Wolverhampton.Kenrick, Archibald, & Sons; West
Bromwich.Baker, Christopher, & Sons; 98 and
99, Lichfield Street, Birmingham.Nettlefolds; 16, Broad Street, Bir-
mingham.Brown, Richard W. J., junr.; 324,
Kennington Road, London.Martineau & Smith, Holloway Head,
Birmingham.Nettlefolds; 16, Broad Street, Bir-
mingham.Ridge, Woodcock, & Hardy; Eldon
Street, Sheffield.Shaw & Fisher; 43, Suffolk Road,
Sheffield.Vivian, H. H., & Co.; 46, George
Street, St. Paul's, Birmingham.Siddons, Joseph & Jesse; Hill Top,
West Bromwich, Staffordshire.Kenrick, Archibald, & Sons; West
Bromwich.Aashenurst, John Talbot, & Co.;
51, Cardington Street, Hampstead
Road, London.Baker, Christopher, & Sons; 98 and
99, Lichfield Street, Birmingham.Brown, Richard W. J., junr.; 324,
Kennington Road, London.

METALS—cont.**7. Hardware, Iron-
mongery, &c.—cont.**

Coffin furniture.

Door furniture.

Hinges.

Screws and screw
hooks.

Smoothing irons.

Staples.

8. Miscellaneous.Enamelled placards
on tin plates.

Handmills.

Steel springs.

Baker, Christopher, & Sons; 98 and
99, Lichfield Street, Birmingham.
Harland, John Whitfield; 49, Essex
Street, Strand, London.
White, William, & Sons; 345, Ox-
ford Street, London.
Clark, T. & C., & Co.; Shakespeare
Foundry, Wolverhampton.
Nettlefolds; 16, Broad Street, Bir-
mingham.
Kenrick, Archibald, & Sons; West
Bromwich.
Paris, James; Margery Park Road,
Stratford, Essex.
Nettlefolds; 16, Broad Street, Bir-
mingham.
Anglo-Russian Iron and Tin Plate
Co., Limited; 18, New Bridge Street,
London.
Kenrick, Archibald, & Sons; West
Bromwich.
Turton, Thomas, & Sons; Sheaf
Works; Sheffield.

MILITARY APPARATUS.

Ammunition.

Armour plates.

Armour plates (perfo-
rated).Artillery ironwork
fittings.

Boat (in model).

Fighting.
Troop.Breech-loading steel
gun and carriage.Campaigning equip-
ment.

Canteen (troop).

Carbines.

Cartridges.

Cartridges (steel).

Cases for.
Models of.Cartridge magazine
bags and belts.Cartridges, waterproof
paper for.Cavalry ironwork
fittings.

Cavalry saddlery.

Eley Brothers (Limited).

Brown, John, & Co., Limited.
Cammell, Charles, & Co.Whitworth, Sir Joseph, & Co.
Limited.

Hawkins, John, & Co.

Berthon Boat Co., Limited.
Berthon Boat Co., Limited.Whitworth, Sir Joseph, & Co.,
Limited.

Lee Brothers.

White, Thomas.

White, Thomas.

Soper, William.

Kynoch & Co.

Lewis, George Edward.

Eley Brothers.

Mackie, Samuel Joseph.

Ashford, W. & G., & Winder.

Thomsons, Felton, & Co.

Hawkins, John, & Co.

Ashford, W. & G., & Winder.

MILITARY APPARATUS—cont.

Cavalry saddlery —
cont.

Drill movements (model
for teaching).

Gun (rifled), section of
bore.

Gunboat, model of.

Helmets.

Pontoons (light collapsible).

Powder.

Projectiles.

Revolvers.

Rifles.

Henry.
Martini-Henry.
Metford.
Snider.

Rockets.

Rocket firing tube.

Steam ships (drawings
and models of).

Steel.

Ingots, fluid, pressed
and unpressed.
Mild atlas.

Steel goods.

Steel shot.

Target (hæmatite iron).

Telegraphs, military.

Tents.

Torpedoes (various).

Air vessel for.

Torpedo boat (steel,
with equipment).

Turret (for war ships).

War material.

Christie, William.
Hawkins, John, & Co.

Clark, Edward Podmore.

Whitworth, Sir Joseph, & Co.,
Limited.

Martin, William.

Palmer's Shipbuilding & Iron Co.,
Limited.

Burbidge & Rowley.

Lincoln, Bennett, & Co.

Lee Brothers.

Tress & Co.

Berthon Boat Co., Limited.

Pigou, Wilks, & Laurence, Limited.

Whitworth, Sir Joseph, & Co.,
Limited.

Reilly, E. M., & Co.

Scott, W. & C., & Son.

Soper, William.

Henry, Alexander.

Lewis, George Edward.

Gibbs, George.

Lewis, George Edward.

Hale-Macdonald War Rocket &
Torpedo Co.
Gage, Thomas.

Mackie, Samuel Joseph.

Whitworth, Sir Joseph, & Co.,
Limited.

Brown, John, & Co., Limited.

Cammell, Charles, & Co., Limited.

Brown, John, & Co., Limited.

Woods, Cocksedge, & Co.

British Telegraph Manufactory,
Limited.

Edgington, Benjamin.

Hale-Macdonald War Rocket &
Torpedo Co.

Whitworth, Sir Joseph, & Co.,
Limited.

Wigzell, Halsey, & Co.

Hall, Julius.

Greenwood & Batley.

MILLS (for grinding corn).

Corn mills.

Barford & Perkins.
Corcoran, Witt, & Co.
Lloyd, Thomas, & Sons.
Marshall, Sons, & Co., Limited.
Nicholson, William Newnam, & Sons.
Picksley, Sims, & Co., Limited.
Ransomes, Sims, & Head.
Riches & Watts.
Ruston, Proctor, & Co.
Turner, E. R. & F.
Woods, Cocksedge, & Co.
Woolnough, W. & C., & Co.

Machinery for dressing
flour.

Barford & Perkins.
Carter, J. Harrison.
Corcoran, Witt, & Co.
Dell, William R., & Son.
Lloyd, Thomas, & Sons.
Riches & Watts.

Machinery and imple-
ments for mills.
Elevators for mills.

Dell, William R., & Son.

Porcelain rollers for
middling grinders.
Millstones.

Corcoran, Witt, & Co.

Corcoran, Witt, & Co.

Millstones (corundum).

Dell, William R., & Son.

Carter, J. Harrison.

Millstones (French
burr).

Corcoran, Witt, & Co.
Davies & Sneade.

Millstones, machine for
dressing.
Millstones, tools for
dressing.

Carter, J. Harrison.

Corcoran, Witt, & Co.

MINERALS (including Rocks, Earths, and Clays, &c.).

Anthracite.

Evans, D. & H. C.; Ferryside
Chambers, Swansea.
Palmer, Morgan, & Co.; Cardiff.

Asbestos.

Bird, William, & Co.; 2, Laurence
Pountney Hill, London.

Blue stone.

Evans, Edward; Bluestone Quarry,
Nantglyn, Denbigh, North Wales.
Gibbs, James, & Co.; 16, Mark Lane,
London.

Brimstone.

Clay.

a. China-clay (see
CERAMICS).

b. Fire-clay (see
FIRE-BRICKS).

Coal and coke.

Coal.

Broomhill Coal Co.; near Newcastle-
on-Tyne.

Burnhope Coal Co.; near Newcastle-
on-Tyne.

MINERALS—cont.**Coal and coke—cont.****Coke.****Emery.**

Compagnie Houillière de Graigola Merthyr; Merthyr, Swansea.
 Cramlington Coal Co.; near Newcastle-on-Tyne.
 Evans, D. & H. C.; Ferryside Chambers, Swansea.
 Granville, The Earl, K.G.; Shelton Colliery and Iron Works, Stoke-upon-Trent.
 Great Western Colliery Co.; 35, West Bute Street, Cardiff.
 Lilleshall Co.; Prior's Lee Hall, near Shifnal, Shropshire.
 Londonderry, Marquis of; Seaham, Durham.
 London and South Wales Coal Co., Limited; Cardiff.
 Marshall, Robert; 173, St. Vincent Street, Glasgow.
 Mason & Co.; 5, Arthur Street East, London.
 Newport Abercorn Black Vein Steam Coal Co., Limited; 115, Leadenhall Street, London.
 Palmer, Morgan, & Co.; Cardiff.
 Ramsay, George Heppel; Newcastle-upon-Tyne.
 Rhyhope Coal Co., Limited; Rhyhope Office, Sunderland.
 Richards & Co., Limited; 1, Fenchurch Street, London.
 South Derwent Colliery Co.; Lombard Street, Newcastle-on-Tyne.
 Tweddell, MacLaren, & Co.; 5, Queen Street, Newcastle-on-Tyne.
 Tylor, A., & Co.; 123, Bute Street, Cardiff.
 Waynes Merthyr Co., Limited; Bartholomew House, Bartholomew Lane, London.
 Wigan Coal and Iron Co., Limited; Wigan.
 Young's Paraffin Light and Mineral Oil Co., Limited; 18, Dundas Street, Glasgow.
 Great Western Colliery Co.; 35, West Bute Street, Cardiff.
 Lilleshall Co.; Prior's Lee Hall, near Shifnal, Shropshire.
 North Lonsdale Iron and Steel Co., Limited; Ulverston, Lancashire.
 North of England Iron Manufacturers' Association, and Cleveland Ironmasters' Association; Royal Exchange, Middlesbrough.
 Ramsay, George Heppel; Newcastle-on-Tyne.
 South Derwent Colliery Co.; Lombard Street, Newcastle-on-Tyne.
 Goldsworthy, Thomas, & Sons.

MINERALS—cont.Emery—*cont.*Fire clay (*see above*).

Fluxes.

Mineral fuel.

Anthracite and coal
(*see above*).
Patent fuel.

Graphite.

Gypsum.

Limestone.

Plumbago.

Pyrites.

Quartz.

Salt.

Sand.

Shale.

Slate.

Stone.

Water of Ayr stone.

ORES.

Arsenic.

Oakey, John, & Sons; Wellington
Mills, Westminster Bridge Road.Snelus, George James; Workington,
Cumberland.Cambrian Patent Fuel Co., Limited;
Masonic Hall Chambers, Cardiff,
South Wales.Compagnie Houillère de Graigola
Merthyr; Merthyr, Swansea.Diamond Fuel Co., Limited; 23,
Old Broad Street, London.Western Merthyr Coal and Fuel Co.,
Limited; Swansea.Wolff, E., & Son; 55, Great Queen
Street, Lincoln's Inn, London.Baxter, Robert Cordy; Hethersett,
Reigate, Surrey.North Lonsdale Iron and Steel Co.,
Limited; Ulverstone, Lancashire.North of England Iron Manufact-
urers' Association, and Cleveland
Ironmasters' Association; Royal
Exchange, Middlesborough.Patent Plumbago Crucible Co.; Bat-
tersea Works, London.Gibbs, James, & Co.; 16, Mark Lane,
London.Walker, James; 10, Elmwood Place,
Leeds.Corbett, John, M.P.; Stoke Prior
Salt Works, Bromsgrove, Worces-
tershire.Higgin, Thomas; 83, Tower Build-
ings, Liverpool.Abernant Ironworks and Collieries
Co.; 18, New Bridge Street, Lon-
don.Oak Bank Oil Co., Limited; 128,
Ingram Street, Glasgow.Young's Paraffin Light and Mineral
Oil Co., Limited; 18, Dundas
Street, Glasgow.Cwmorthin Slate Co., Limited; Port-
madoc, N. Wales.Kinsman, Rev. Prebendary; Tin-
tagel, near Camelford, Cornwall.Pen-yr-orsedd Slate Quarry Co.,
Limited; Nantlle, near Carnarvon,
North Wales.Pictor & Sons; Box, near Chippen-
ham, Wilts.Montgomerie, John C.; Stone
Works, Dalmore, Stair, Ayrshire.Devon Great Consols Co., Limited;
184, Gresham House, Old Broad
Street, London.

MINERALS—cont.**ORES—cont.****Arsenic—cont.****Cobalt.****Copper.****Iron.****Lead.****Nickel.****Silver.**

Emmens & Co., Limited; 184, Palmerston Buildings, Bishopsgate Street Within, London.

Wiggin, Henry, & Co.; 55, George Street, Parade, Birmingham.

Devon Great Consols Co., Limited; 184, Gresham House, Old Broad Street, London.

Emmens & Co., Limited; 184, Palmerston Buildings, Bishopsgate Street Within, London.

Bird, William, & Co.; 2, Laurence Pountney Hill, London.

Granville, The Earl, K.G.; Shelton Colliery and Iron Works, Stoke-upon-Trent.

Harrison, Amslie, & Co.; Newland Furnace, Ulverston, Lancashire.

Lilleshall Co.; Prior's Lee Hall, near Shifnal, Shropshire.

North Lonsdale Iron and Steel Co., Limited; Ulverston, Lancashire.

North of England Iron Manufacturers' Association, and Cleveland Ironmasters' Association; Royal Exchange, Middlesbrough.

Snelus, George James; Workington, Cumberland.

Wigan Coal and Iron Co., Limited; Wigan.

Emmens & Co., Limited; 184, Palmerston Buildings, Bishopsgate Street Within, London.

Wiggin, Henry, & Co.; 55, George Street, Parade, Birmingham.

Emmens & Co., Limited; 184, Palmerston Buildings, Bishopsgate Street Within, London.

MINING AND METALLURGY.**IMPLEMENTS AND APPLIANCES OTHER THAN MACHINES. (For Machines see MINING AND METALLURGICAL MACHINERY, post.)****1. MINING.****MINING PLANT.**

Bird, Wm., & Co.

Emmens & Co.

Hadfield's Steel Foundry Co.

DETONATORS.

Macnab, James.

GUNS.

Macnab, James.

LAMPS.

Cooke, Joseph, & Co.

Horn, Thomas Story.

Johnson, Clapham, & Morris.

Nottingham Malleable Iron Co., Limited.

Protector Lamp and Lighting Co., Limited.

Cooke, Joseph, & Co.

LAMP BRUSHES.**G 913.****▲ ▲**

MINING AND METALLURGY—*cont.*IMPLEMENTS AND APPLIANCES OTHER THAN MACHINES—*cont.*

PERFORATED PLATES.

POWDER.

RESPIRATORS.

ROPES.

SIGNALS.

SAFETY FUZES.

TOOLS.

WIRE CLOTH.

Miscellaneous.

Headstock Hooks
(King's Patent).

Colliery, model of
headstocks for.

Cores obtained by
diamond rock
borer.

2. METALLURGY.

FURNACES (appli- Crucibles.
ances for).

Tuyeres.

Miscellaneous.

Materials for manu-
facturing by Besse-
mer process.

Corcoran, Witt, & Co.

Pigon, Wilkes, & Laurence, Limited.

Loewenthal, Leopold.

Glover, Wm. James, & Co.

Houghton, James, & Son.

Newall, R. S.

Phosphor Bronze Co., Limited.

Shaw, John.

Smith, Frederick, & Co.

Smith, William, & Sons.

Warrington Wire Rope Works Co.,
Limited.

British Telegraph Manufactory,
Limited.

Rownson, Drew, & Co.

Zimdars, C. E.

British Telegraph Manufactory,
Limited.

Brunton, William, & Co.

Burys & Co., Limited.

Emmens & Co., Limited.

Fussell, James, Sons, & Co.

Greening, N., & Sons.

Johnson, Clapham, & Morris.

Humble, Stephen.

Humble, Stephen.

Diamond Rock Boring Companies
of London.

Cliff, Joseph, & Sons.

Doulton & Co.

Harper & Moores.

King Brothers.

Patent Plumbago Crucible Co.,
Limited.

Dunnachie, James.

Glenboig Fire Clay Co.

Lloyd, Francis Henry.

West Cumberland Iron & Steel Co.,
Limited.

MINING AND METALLURGICAL MACHINERY.**a. MINING.****MACHINES, VARIOUS.****AIR COMPRESSORS,
EXHAUSTERS, AND
BLOWERS.****DIAMOND AND OTHER
ROCK BORERS
AND DRILLS.****DIAMOND CROWNS
FOR BORING
DRUMS.****ENGINES.****PUMPS.****STEAM HAMMERS.****STONE CRUSHERS
AND DRESSERS.****STAMPERS.****VENTILATORS.****b. METALLURGY.****AIR BLOWERS.****FORGING MACHINES.****JIGGING MACHINES.****ORE WASHING MA-
CHINES.****STEAM AND OTHER
SAWS FOR MET-
ALS.**

Greenwood & Batley.

Brackell, Christopher.
Greenwood & Batley.
Hathorn & Co.
Le Gros, Mayne, Leaver, & Co.
Savile Street Foundry and Engineer-
ing Co., Limited.Emmens & Co., Limited.
Hathorn & Co.
Le Gros, Mayne, Leaver, & Co.
Salmon, Barnes, & Co.Diamond Rock Boring Companies of
London.
Fowler, John, & Co.Fowler, John, & Co.
Robey & Co.Brackell, Christopher.
Savile Street Foundry and Engineer-
ing Co., Limited.
Taylor, Henry Enfield.

Massey, B. & S.

Broadbent, Robert, & Son.
Brunton & Trier.
Dunston Engine Works Co.
Hydraulic Engineering Co., Limited.
Marsden, H. R.
Savile Street Foundry and Engineer-
ing Co., Limited.
Taylor, Henry Enfield.
Triggs & Benson.Corcoran, Witt, & Co.
Massey, B. & S.
Mather & Platt.Brackell, Christopher.
Loewenthal, Leopold.Brackell, Christopher.
Savile Street Foundry and Engineer-
ing Co., Limited.

Massey, B. & S.

Taylor, Henry Enfield.

Taylor, Henry Enfield.

Massey, B. & S.
Western & Co.

MUSICAL INSTRUMENTS AND APPLIANCES.

Angelute, harmonic.

Concertinas.

Double bass.

Flutes and flageolets.

Harmonium (organ).

Orchestrophone.

Organ.

Organ-harmoniums.

Pianette.

Pianofortes.

Violas.

Violins.

Violincellos.

Miscellaneous Accessories.

Keyboards for
pianos, &c.

Model of check
repeater action
(for pianos).

Motors (electric)
for driving
organs.

Pianoforte furni-
ture.

Regulating dumb
piano.

Vibrators for har-
monium.

Wire for organs.

Wire for piano-
fortes.

Ward, John Charles.

Lachenal & Co.

Chanot, George.

Wallis, Joseph.

Bauer, Gilbert L.

Hilliér, James.

Brown, Richard, & Son.

Bauer, Gilbert L.

Challen & Son.

Barratt & Robinson.

Brinsmead, John, & Sons.

Brooks, Robert.

Challen & Son.

Dreaper, Wm. H. & G. H.

Hemingway & Thomas.

Hopkinson, J. & J.

Ivory, Henry A., & Co.

Monington & Weston.

Smith, James Muir.

Strohmenger, J., & Sons.

Ward, John Charles.

Wornum, Robert, & Son.

Chanot, George.

Chanot, George.

Chanot, George.

Brooks, Robert.

Horn, Thomas Story.

Brinsmead, John, & Sons.

Howe Machine Co., Limited.

Nettlefold.

Horn, Thomas Story.

Bauer, Gilbert L.

Phosphor Bronze Co., Limited

Houghton, William Dickson.

Smith, William, & Son (Cl. 48).

NATURAL HISTORY, STUFFED SPECIMENS OF. (Exhibited in the Indian Section.) | Rolland, B.
Ward, J. Rowland, & Co.

NETS AND VEILS. See under **LACE AND EMBROIDERY.**

NAVIGATION AND LIFE-SAVING APPARATUS. (For Fire Engines and Fire Escapes see under **FIRE ENGINES.**)

I.—MARINE AND NAUTICAL APPARATUS AND CONSTRUCTIONS. (See below, **MODELS, III. A.**)

Anchors.

Blocks and tackles.

Boats.

Boats (collapsible).

Boats (folding).

Boat.

Cables and hawsers.

**Capetans, jacks, and
windlasses (see also
HYDRAULICS).**

Compass.

Diving apparatus.

**Engines and boilers
(see also under MA-
CHINERY AND APPA-
RATUS IN GENERAL).**

Port lights.

Propellers.

Pumps.

**Rigging (see also Iron.
Wire Ropes under
METALS).**

Sheathing felt.

Soundings machine.

Steam launches.

Dinghy.

Metallic.

Fittings, &c.

Lowering apparatus.

Oars.

Steel.

Swivel for cable.

**Lighting (submarine).
Respirators.**

Castings.

Cycloidal.

Launch.

Lowe-Vansittart.

Screw couplings of.

Screw shaft forging.

Martin, C., & Co.

Head, Wrightson, & Co.

Tangye Brothers.

Berthon Boat Co.

Crispin, William Henry.

Stone, J., & Co.

Brice, William A.

Cunningham, Shaw, & Co.

Smith, William, & Son.

Meyer, Frank John.

Head, Wrightson, & Co.
Hydraulic Engineering Co.
Tangye Brothers.
Thompson, William Bruce.

Thomson, Sir William.

Siebs & Gorman.

Taylor, Joseph, & Sons.

Siebs & Gorman.

Loewenthal, Leopold.

Brune & Co.

Hunter & English.

Wigzell, Halsey, & Co.

Hadfield's Steel Foundry Co.

Stone, J., & Co.

Armit, Robert Henry.

Hunter & English.

Vansittart, Mrs. Henrietta.

Meyer, Frank John.

Whitworth, Sir Joseph, & Co.

Adair & Co.

Blundell, G. T. & J. W.

Stone, J., & Co.

Glover, Wm. James, & Co.

Shaw, John.

Anderson, David, & Son.

Thomson, Sir William.

Brune & Co.

Hunter & English. (Exhibited on
the Seine.)

Lewin, David James.

NAVIGATION AND LIFE-SAVING APPARATUS—*cont.*I.—MARINE AND NAUTICAL APPARATUS AND CONSTRUCTIONS—*cont.*

Steel.	Angles, beams, and plates.	Landore-Siemens Steel Co., Limited.
Steering gear.	Hydraulic.	Thompson, William Bruce. Lafargue, A.
Storm valve.		Blundell, G. T. & J. W.
Tanks.		Burney & Co.
Telegraph.	Engine and steering.	Chadburn & Son. Homfray & Co.
Torpedoes.	Air vessel.	Hale-Macdonald War Rocket Co.
	Boat with equipment.	Whitworth, Sir Joseph, & Co.
	Grapnel.	Wigzell, Halsey, & Co. Jamieson, Andrew.
Ventilators.		Boyle, Robert, & Son. Brackell, Christopher.
Miscellaneous articles.	Handspikes and bars.	Cunningham, Shaw, & Co.
	Forgings (marine).	Landore-Siemens Steel Co., Limited
	Masthead light (Wavish patent).	Wavish, James.
	Photographs of steamers and engines.	London, Brighton, and South Coast Railway Co.
	Stove (yacht's).	May, G. H., & Co.
	Tubes (for shipbuilding). See under METALS.	
	W.C. (Downton's patent).	Blundell, G. T. & J. W.
	W.C. (Downton's patent), and new patent.	Stone, J., & Co.
	Wood pavement for steamers.	Knight, S.

II.—LIFE-SAVING APPARATUS. (See below, MODELS, III. B.)

Life boats.	Raft.	Parratt, George Frederick.
Life buoys, &c.	Belts.	Birt, J. & A. W.
	Cushions and dress.	Blacklock, Goudie, & Co.
	Buoys and jackets.	Steedman & McAlister.
	Night buoys.	Stone, J., & Co.
	Buoyant bunk.	Watts, James Wren.
Rockets.		Gage, Thomas.
	Rocket firing tube.	Hale-Macdonald War Rocket Co.
	Stand.	Gage, Thomas. Blott, Walter.
Swimming apparatus.		Dunlop, R. H. Wallace, C.B.

III.—MODELS.

A. *Marine and Nautical.*

Anchors and chain cable.

Boats.

Pleasure and racing.

Martin, C., & Co.

Livie, David.

Biffen, William Henry, jun.

Livie, David.

NAVIGATION AND LIFE-SAVING APPARATUS—*cont.*III.—MODELS—*cont.*

Docks.

Drums and paying out
apparatus.
Pier.

Pump.

Rudders and steering
gear.

Steamships.

American line.
"Gallia."
"City of Berlin."
Various.
"Glenartney."Various.
Cable towing.
Transatlantic passen-
ger.
Stable passenger.
Various."Columbia."
"Britannic."
"Germanic."Submerged powder
boat.B. *Life-saving.*

Quarter ship.

East & West India Dock Co.

Meyer, Frank John.

Smartt, Walter.

Mills, Robert.

Martin, C., & Co.
Russell, John Scott.
Barrow Shipbuilding Co.
Cunard, Burns, & MacIver.
Inman Steamship Co.
Laird Brothers.
London & Glasgow Engineering and
Iron Shipbuilding Co., Limited.
Mackie, Samuel Joseph.
Meyer, Frank John.
Palmer's Shipbuilding & Iron Co.,
Limited.
Roy, Eugene Armand.
Sunderland Steam Builders Associa-
tion.
Thomson, James & George.
White Star Line.
White Star Line.

Roby, George.

Ballardie, Dougald.

OILS AND COLOURS. (For Gums and Resins see under CHEMICAL AND PHARMACEU-
TICAL PRODUCTS.)

I.—COLOURS, DYES, AND PAINTS.

Aniline.

For artificial flowers.

Artists. See under ART
SCHOOLS.
For coachbuilders.

For confectioners.

For lithographers.

Brooks, Simpson, & Spiller.
Fayolle, Gustave.
Levinstein, L. J., & Sons.
Lowe, Chas., & Co.
Williams, Thomas, & Dower.
Wilson & Co.Carruthers & Allan.
Wilson & Co.Berger (Lewis) & Sons.
Leech & Neal.
Storer, David, & Sons.
Turner, Chas., & Son.
Wilkinson, Heywood, & Clark.
Yorkshire Varnish Co.

Bush, W. J., & Co.

Berger (Lewis) & Son.

OILS AND COLOURS—*cont.*I.—COLOURS, DYES, AND PAINTS—*cont.*

For metals.

For paper stainers.

For potters.

For painters (house,
&c.)

For printers.

For ships.

For stuffs, &c.

Woods, stains for.

Polishes.

Furniture.

For harness.

For metals.

For plate.

For plate and metals.

For silver.

For wood.

Propert's.

Varnishes and Japans.

Boots.

Raw materials of colours,
dyes, paints, varnish,
&c.Leech & Neal.
Silicate Paint Co.Berger (Lewis) & Sons.
Storer, David, & Sons.
Wilson & Co.

Wenger, Albert.

Griffiths, Fletcher, & Berdoe.
Leech & Neal.
Rose, Sir W. A., & Co.
Silicate Paint Co.
Storer, David, & Sons.
Turner, Chas., & Son.
Tyne Alkali Co.
Wilson & Co.

Berger (Lewis) & Son.

Silicate Paint Co.
Wilkinson, Heywood, & Clark.Brooke, Simpson, and Spiller.
Carruthers & Allan.
Fayolle, Gustave.
Levinstein, L. J., & Sons.

Stephens, Henry Clarke.

Adams, John.
Carruthers & Allan.
Peirce, W. Adams.
Adams, John.
Beddow, B., & Son.
Bashford, G. J. St. John.
Adams, John.
Mackay, John, & Co.
Beddow, B., & Son.Cornelissen, Louis, & Son.
Dane & Co.
Gidley, Clark, & Co.
Jenson & Nicholson.
Mackay, John, & Co.
Mander Brothers.
Reade Brothers.
Rolls, Schweizer, & Co.
Rose, Sir W. A., & Co.
Turner, Charles, & Son.
Wilkinson, Heywood, & Clark.
Winfield, R. W., & Co.
Yorkshire Varnish Co.
Brown, Edward, & Sons.
Everett & Co.Berger (Lewis) & Sons.
Levinstein, L. J., & Sons.
Mackay, John, & Co.
Turner, Chas., & Son.
Wilkinson, Heywood, & Clarke.
Williams, Thomas, & Dower.

OILS AND COLOURS—*cont.***I.—COLOURS, DYES, AND PAINTS—*cont.***

Sundries.

Dye house goods.

Glue.

White lead.

Yorkshire Varnish Co.

Macintosh, Charles, & Co.

Flitch, J. J., & Son.
Wilson, Walker, & Co

Robinson & Anderson.

II.—OILS. (See also under CHEMICAL AND PHARMACEUTICAL PRODUCTS, and under HEATING AND LIGHTING.)Anthracine.
Burning.Cloth.
Cylinder and valve.
Fattening.
French, white.
Gas oil.
Grease oil.
Light oil.
Lubricating.Machinery.
Mineral.

Naphtha and paraffin.

Palm nut oil.

Draper, John.
Oakbank Oil Co., Limited.
Rose, Sir W. A., & Co.
Hall, A. W., & Co.
Price's Patent Candle Co.
Young's Paraffin Light & Mineral Oil Co.
Price's Patent Candle Co.
Oakbank Oil Co., Limited.
Draper, John.
Yorkshire Varnish Co.
Oakbank Oil Co., Limited.
Hall, A. W., & Co.
Hall, A. W., & Co.
Hutchison, Robert.
Rose, Sir W. A., & Co.
Young's Paraffin Light & Mineral Oil Co.
Price's Patent Candle Co.
Oakbank Oil Co.
Young's Paraffin Light & Mineral Oil Co.
Hall, A. W., & Co.
Price's Patent Candle Co.
Young's Paraffin Light & Mineral Oil Co.
Sevin, Charles.**PAINTED GLASS.** See STAINED GLASS.**PAINTING MATERIALS.** See under ART SCHOOLS.**PAPER.** See under STATIONERY AND BOOKBINDING.**PAPER HANGINGS.**Allan, John, & Son.
Jeffrey & Co.
Woollams, William, & Co.**PAPER MAKING MACHINERY.**Paper maker's stock
(Alfa) and half stuff.
Parts of paper making
machinery.
Dandy, roll, and car-
riages.Routledge, Thomas.
Marshall, T. J., & Co.
Marshall, T. J., & Co.

PAPER MAKING MACHINERY—con t.

Machine knives.

Pulp strainers.

Wire for paper machines.

Bedford, John, & Sons.

Marshall, T. J., & Co.
Watson, Henry.Corcoran, Witt, & Co.
Johnson, Clapham, & Morris.
Phosphor Bronze Co., Limited.**PERFUMERY.**

Brushes and Combs.

Cosmetics.

Dentrifices.

Pomades, oils, and
washes.

Scents and toilet waters.

British Xylonite Co., Limited.
Crown Perfumery Co.
Kent, George Barton, & Co.
Scottish Vulcanite Co., Limited.
Stewart, S. R., & Co.Atkinson, J. & E.
Lewis, James.
Rimmel, Eugene.
Yardley & Co.Atkinson, J. & E.
Cleaver, F. S., & Sons.
Lewis, James.
Rimmel, Eugene.
Rowland, A., & Sons.
Wright & Holdsworth.
Yardley & Co.Atkinson, J. & E.
Cleaver, F. S., & Sons.
Lewis, James.
Osborne, Bauer, & Cheeseman.
Rimmel, Eugene.
Rowland, A., & Sons.
Yardley & Co.Atkinson, J. & E.
Cleaver, F. S., & Sons.
Crown Perfumery Co.
Laurendeau, P.
Lewis, James.
Luce, George.
Osborne, Bauer, & Cheeseman.
Piesse & Lubin.
Price, Napoleon, & Co.
Rimmel, Eugene.
Yardley & Co.Soaps (see also under
CHEMICAL AND PHAR-
MACUTICAL PRO-
DUCTS and WASHING).Atkinson, J. & E.
Cleaver, F. S., & Sons.
Crown Perfumery Co.
Lewis, James.
Osborne, Bauer, & Cheeseman.
Pears, A. & F.
Piesse & Lubin.
Price, Napoleon, & Co.
Rimmel, Eugene.
Yardley & Co.

PERFUMERY—cont.*Miscellaneous.*

Sprinklers for per-
fumes and capping
(patent) for po-
mades.

Aire & Calder Glass Bottle Co. (E.
Brefit & Co.).

PHARMACEUTICAL PRODUCTS. See under **CHEMICAL AND PHARMACEUTICAL PRODUCTS.**

PHILOSOPHICAL INSTRUMENTS. See under **MATHEMATICAL AND PHILOSOPHICAL INSTRUMENTS.**

PHOTOGRAPHY.**I.—PHOTOGRAPHIC APPARATUS.**

Photographic ap-
paratus.

Brice, William A.
Dallmeyer, John Henry.
Hare, George.

Cameras.

Dallmeyer, John Henry.
Hare, George.
Ross & Co.

Carbon papers.

Autotype Co.

Collodion and
tissues.

Mawson & Swan.

Lenses.

Dallmeyer, John Henry.
Ross & Co.

Tissue (sensitive).

Warnerke, Leon.

II.—PHOTOGRAPHS.

(a.) *Various subjects.*
Photographs.

Badoux, Charles Ernest
Beauford & Bruce.
Bedford, William.
Brownrigg, T. M.
England, William.
Faulkner, Robert, & Co.
Fisk, Alfred S.
Hedges, David.
Jennings, Payne.
Kerr, Edward, jun.
Maltby, William Flower.
Norman, Carl, & Co.
Robinson, Henry P.
Sherlock, William.
York, Frederick.

(Architectural
subjects.)

Lemere (Bedford) & Co.
Wheeler, William Henry.

(Portraits.)

Baum, F.
Boucher, Albert.
Elliott & Fry.
London Stereoscopic Co.

PHOTOGRAPHY—*cont.*II.—PHOTOGRAPHS—*cont.*

(Reproductions
of Works of
Art).

(Stereoscopic
views).

(*b.*) *Various processes.*
Photographs (au-
totype).

(Chromotype).

(Heliotechnic
process).

("Liverpool"
plate process).

(Negatives com-
bined).

(In carbon and
in silver).

(On dry plates).

(On glass).

(On porcelain).

(On sensitive
tissue).

(Transparent).

(Vitrified ena-
mel).

III.—MISCELLANEOUS.
Photographic en-
graving.

Photographic proofs.

PIANOFORTES. See under MUSICAL INSTRUMENTS AND APPLIANCES.

PLATED GOODS. See under GOLDSMITHS' AND SILVERSMITHS' WORK.

PORTABLE WEAPONS. See SPORTING GUNS.

PORTMANTEAUS, &c. See TRAVELLING APPARATUS AND CAMP EQUIPAGE.

POTTERY. See under CERAMICS.

PRECIOUS STONES. See under JEWELLERY AND PRECIOUS STONES.

PRINTING AND BOOKS.

I.—PRINTING.

Printing, specimens of.

South Kensington Museum, London.

Badoux, Charles Ernest.
England, William.

Godbold & Basebe.
Heath, Vernon.

Godbold & Basebe.

Beau, Adolphe.

Liverpool Dry Plate & Photographic
Printing Co.
Fry, Samuel.

Watkins, Herbert.

Whiting, Matthew.

England, William.

Maltby, William Flower.

Warnerke, Leon.

Badoux, Charles Ernest.
Godbold & Basebe.

Henderson, Alexander Lamont.

Dallas, Duncan Campbell.
Typographic Etching Co.

Autotype Co.

Blackie, W. G., & Co.
Collingridge, W. H. & L.
Day, John B.
Dunn & Co.
Unwin Brothers.

PRINTING AND BOOKS—cont.**I.—PRINTING—cont.****Bank notes.**

Bankers' cheques.

Certificates for shares.

Cheques.

Cheques, detector.

Christmas cards.

Lithographic reproductions.

Lithotype.

Lithotype specimens.

Newspapers.

Newspaper, illustrated.

Printing.

Printing (nature process).

Publications (as specimens of printing).

Stereotypes.

Types, impressions from.

Saunders, T. H., & Co.

Skipper (Charles) & East.

Skipper (Charles) & East.

Skipper (Charles) & East.

Waterlow & Sons, Limited.

Ward, Marcus, & Co.

Ward, Marcus, & Co.

Brooks (Vincent), Day, & Son.

Patent Lithotype Co., Limited.

Patent Lithotype Co., Limited.

A. B. Fleming & Co.

Spottiswoode & Co.

"The Graphic."

Proprietors of "Practical Guide" for Tourists.

Baildon, Henry C.

Spottiswoode & Co.

"The Graphic."

Stephenson, Blake, & Co.

II.—BOOKS.**Books.**

Books for lending libraries.

Books for parochial lending libraries.

Almanacks.

Archaic classics.

Bagster, S., & Sons.

Bruckmann, Frederick.

Collingridge, W. H. & L.

Day, John B.

Loth, John Thomas.

Minola, Nicola.

Nelson, Thomas, & Sons.

Proprietors of "Practical Guides" for Tourists.

Spottiswoode & Co.

Stewart, Charles M. A.

Unwin Brothers.

Ward, Marcus, & Co.

Pure Literature Society.

Pure Literature Society.

Whitaker, Joseph.

Bagster, S., & Sons.

PRINTING AND BOOKS—*cont.*II.—Books—*cont.*

Artistic and illustrated books.

Bibles.

Bibles (polyglot translation).

Catalogues of art objects in the Museum.
Children's illustrated books.

Educational books.

Encyclopædia Britannica.
Faust.

Ferns, nature printed book of.
Geographical books.

Guide books.

Music.

Musical publications.

Surgeon's Pocket Book,
The.
"Times" Index.

Seeley, Jackson, & Halliday.

Unwin Brothers.

Bagster, S., & Sons.
British & Foreign Bible Society.

South Kensington Museum.

Ward, Marcus, & Co.

Blackwood, William, & Sons.
Philip, George, & Son.

Black, Adam & Charles.

Bruckmann, Frederick.

Baildon, Henry C.

Philip, George, & Son.

Moonen, Charles.

Enoch & Sons.
Augener & Co.

Augener & Co.

Porter, Surgeon Major J. H.

Palmer, Samuel.

PRINTING (CALICOS, &c.). See under DYEING AND PRINTING.

PRINTING MACHINERY AND APPLIANCES.

Printing machinery.

Double royal colour machine.

Lithographic printing machine.

Lithographic machine, demy.

Lithographers' manifold transfer machines.

Printing machine (Ingram rotary).

Printing machine (self-inking), small.

Printing press.

Presses, self-inking, for rubber stereotypes.

Treadle platen machine.

Greenwood & Batley.

Judd & Co.

Greaves, William.

Newsam, Wood, & Dyson.

Beatty, Francis S.

Illustrated London News.

Taylor's Patent Sewing Machine Co., Limited.

Squintani, Carlo Giuseppe, & Co.

Cooke, G. K., & Co.

Judd & Co.

PRINTING MACHINERY AND APPLIANCES—*cont.*

Type composing machine.	Muller, Marks Leopold.
Type composing and distributing machine.	Adie, Patrick.
Type distributing machine.	Muller, Marks Leopold.
Type setting apparatus.	Muller, Marks Leopold.
Printing appliances.	Bailey Brothers.
Printing ink and printing paper. See under STATIONERY AND BOOKBINDING.	
Printing surfaces, (india-rubber).	Cooke, G. K., & Co.
Type.	Unwin Brothers.
Type, brass.	Manuel, Eugene.
Type, metal.	Reed & Fox.
Type, solid rubber.	Cooke, G. K., & Co.

PUBLIC WORKS. (For Engines, Pumps, Cranes, and Hydraulic Machines see under MACHINERY AND APPARATUS IN GENERAL; and for Building Materials, Paving Tiles, &c. see under ARCHITECTURE AND BUILDING.)

SUB-DIVISIONS.

I.—PUBLIC WORKS IN GENERAL.

II.—SANITARY WORKS.

I.—PUBLIC WORKS IN GENERAL.

Asphalte cauldrons and tools.	Marshall, Alfred, & Co.
Steam road roller.	Aveling & Porter.
Timber, creosoted.	Bethell, John, & Co.
Process for creosoting illustrated by drawings.	Bethell, John, & Co.
Water pipes.	Glenboig Fire Clay Co.
Pavement, composite, carriage and footway.	Grant, Robert.
Paving, curb and pitching.	Tamar and Kit Hill Granite Co., Limited.
Paving, vitrified brick.	Plymouth Fire Clay Co.
Paving bricks and paving blocks.	Candy & Co.
Tiles for names of streets.	Brown-Westhead, T. C., Moore, & Co.
Watering cart for streets.	Coleman & Morton.
Wire bridge (in model).	Reid, Benjamin, & Co.
Drinking fountains.	Loewenthal, Leopold.

PUBLIC WORKS—cont.**I.—PUBLIC WORKS IN GENERAL—cont.**

Drinking fountain,
granite.

Tanks and cisterns.

Obelisk, granite.

Monuments, granite.

II.—SANITARY WORKS.

Sanitary cart.

Sanitary appliances.

Sanitary appliances, in
action.

Sanitary pipes.

Sanitary tubes.

Sanitary traps.

Sanitary trap, &c.
(designs for).

Sanitary urinals.

Sanitary ware.

Sanitary valves and
taps.

Sewage pipes.

Sewage pumps.

Sewage purification
(improvements in).

Sewage tank.

Pipes (drain pipes).

Ventilators (for sewers)

Tamar and Kit Hill Granite Co.
Limited.

Burney & Co.
Pen-yr-Osedd Slate Quarry Co.

Bessbrooke Granite Co.

Campbell, Hugh, & Son.
Macdonald, Alex., Field, & Co.
Tamar and Kit Hill Granite Co.,
Limited.

Coleman & Morton.

Jennings, George.
Tylor, Joseph, & Son.
Wright, Sutcliffe, & Son.

Doulton, H., & Co.

Cliff, Joseph, & Sons.
Dunball Steam Pottery Tile and
Brick Co.
Ramsay, George Heppel.

Brooke, Edward, & Sons.

Cliff, Joseph, & Sons.
Stiff, James, & Sons.

Ewart, Richard.

Smeaton, Wm., & Sons.

Candy & Co.
Doulton, H., & Co.

Stone, J., & Co.

Glenboig Fire Clay Co.

Brackell, Christopher.

Punshon, Robert.

Martin, William.

Cliff, Joseph, & Sons.
Stiff, James, & Son.

Boyle, Robert, & Son.
Brooke, Edward, & Sons.

RAILWAYS AND TRAMWAYS, INCLUDING ACCESSORIES OF RAILWAYS AND TRAMWAYS. (For Engines, Boilers, and Locomotive Apparatus in general see **MACHINERY AND APPARATUS IN GENERAL**; and for Construction and Repairs see under (a) **MACHINE TOOLS**; (b) **METALS**; and (c) **TOOLS**.)

SUB-DIVISIONS.

A.—RAILWAYS.

1. Rolling Stock.
2. Railway Machinery and Permanent Way.

B.—TRAMWAYS.

A.—RAILWAYS.

1.—ROLLING STOCK.

Locomotives.

Pullman's palace cars
(im-model).

Brake, continuous.

Brakes (continuous),
portions of, and ap-
pliances.

Communicating (train)
apparatus (Stewart's
patent).

Connector, automatic,
for rolling stock.

Carriage handles
(Scourfield's patent).

Guide plates or ramps
(re-railing).

Trolleys.

Tires and axles (loco-
motive and wagon).
Wheels.

Wheels, rail and tram-
way (drawings of
machinery for).

Apparatus for warm-
ing railway carriages.

Apparatus for lighting
and signalling for
railway carriages.

Black, Hawthorn, & Co.

Fairlie Engine Co.

Fox, Walker, & Co.

Hughes' Locomotive and Tramway
Engine Co., Limited.

London, Brighton, and South Coast
Railway Co.

Sharp, Stewart, & Co. ;

London, Brighton, and South Coast
Railway Co.

Anderson, Christopher.

Smith's Vacuum Brake Co., Limited.

Stewart, Charles.

Barnes, Frederic.

Rownson, Drew, & Co.

London, Brighton, and South Coast
Railway Co.

Bristol Waggon Works Co., Limited.

Landore-Siemens Steel Co., Limited.

Brown, John, & Co., Limited.

Hadfield's Steel Foundry Co.

Tough, John.

Tough, John.

Tice, William.

Howarth, William.

RAILWAYS AND TRAMWAYS, &c.—*cont.*

2. RAILWAY MACHINERY AND PERMANENT WAY.

Permanent way
(samples of).

Creosoted timber.

Chair (suspending
automatic).

Fastener (nut-lock).

Fastenings, plates,
bolts, &c.

Hydraulic capstan.

Rail, reversible double.

Sleepers, elastic em-
bossed.

Railway station (draw-
ings of).

Station appliances.

Railway (brushes).

Railway (handlights).

Railway (platform
weighing machine).

Railway tickets.

Railway ticket perfora-
tor.

Signal apparatus
(electric slot).

Danger signals.

Fog signals.

Fog and alarm signals.

Indicating signals.

Interlocking and block
systems, uniting ap-
paratus.

Interlocking signals
and sidings points,
contrivance for (in
model).

Points and signals in-
terlocker (for double
junction and sid-
ings).

Facing point lock.

B.—TRAMWAYS.

Tramway construction.

Tramway locomotives.

Kincaid, Joseph.

Bethell, John, & Co

Punshon, Robert.

Punshon, Robert.

Patent Nut and Bolt Co., Limited.

Hydraulic Engineering Co., Limited.

Aldred & Spielmann.

MacLellan, P. & W.

Cliff, Joseph, & Sons.

Wilde, James, & Son.

Gage, Thomas.

Nathan, David.

Waterlow & Sons, Limited.

Sloper, Joseph.

Saxby & Farmer.

Gage, Thomas.

Gage, Thomas.

Kynoch & Co.

Rownson, Drew, & Co.

Saxby & Farmer.

Saxby & Farmer.

Brierley, John, & Sons.

Saxby & Farmer.

Beloe, C. H.

Beaumont, Lieut.-Colonel, & Belton,
Lieut.-Colonel.

Foxwalker & Co.

RAILWAYS AND TRAMWAYS, &c.—cont.**B.—TRAMWAYS—cont.**

Tramway locomotives
—cont.

Locomotive for street
railways.

Waggon for road loco-
motive.

Tramway carriage and
rails.

Tramway (car).

Tramway (indicator).

Tramway (passenger
fare recorder).

Tramway (wheels).

Hughes' Locomotive and Tramways
Engine Co.

Merryweather & Sons.

Hughes' Locomotive and Tramways
Engine Co.

Aveling & Porter.

Edge, Charles A.

Merryweather & Sons.

Greenwood & Batley.

Merryweather & Sons.

Hadfield's Steel Foundry Co.
Tough, John.

RIFLES. See **SPORTING GUNS AND MILITARY APPARATUS.**

SADDLERY. See **HARNESS AND SADDLERY.**

SAFES AND STRONG ROOMS. See under **ARCHITECTURE AND BUILDING.**

SANITARY APPLIANCES. See under **PUBLIC WORKS.**

SEWING MACHINES.

I.—FOR CLOTHES, &c.

Bradbury & Co., Limited.

Howe Machine Co., Limited.

Singer Manufacturing Co.

Smith, Starley, & Co., Limited.

Symons, H. Cyrus.

Taylor's Patent Sewing Machine Co.,
Limited.

Wilson (Newton) & Co.

II.—FOR LEATHER AND FOR BOOTS.

For leather.

For boots.

Bradbury & Co., Limited.

Beck, William Henry.

Bradbury & Co., Limited.

Greenwood & Batley.

Howe Machine Co., Limited.

III.—FOR SPECIAL DEPARTMENTS.

Button-hole machines.

Herring-bone machines
(for manufacturers).

Kilting and plaiting
machines.

Over-seaming machines
(for manufacturers).

Sewing and pressing
machine (for work-
ing tailors).

Stocking darning ma-
chine.

Singer Manufacturing Co.
Wilson (Newton) & Co.

Wilson (Newton) & Co.

Wilson (Newton) & Co.

Wilson (Newton) & Co.

Reilly, Francis.

Smith, Starley, & Co., Limited.

SEWING MACHINES—cont.**IV.—PARTS AND ACCESSORIES OF SEWING MACHINES.****Appliances.****Automatic work holders.****Electric motors.****Leather bands.****Needles (sewing machine).****Stand, with foot swinging motion.****Work: samples of machine-work.**Howe Machine Co., Limited.
Smith, Starley, & Co., Limited.
Wilson (Newton) & Co.

Smith, Starley, & Co., Limited.

Howe Machine Co., Limited.
Smith, Starley, & Co., Limited.

Tullis, John, & Son.

Bartleet, William, & Sons.
Chambers, G., & Co.
Hayes, Crossley, & Co.
Milward, Henry, & Sons.
Smith, James, & Son.
Smith, Starley, & Co., Limited.
Thomas, S., & Sons.
Woodfield, William, & Sons.

Symons, H. Cyrus.

Howe Machine Co., Limited.
Singer Manufacturing Co.**SHAWLS; exhibited in the Indian Section. (See also under WOOLS AND WOOLLEN FABRICS.)**Farmer & Rogers.
Kashmir, His Highness the Maharajah of.
Oulman (Les Filles) & Co.
Marlborough, Duchess of.
Robinson, Vincent, & Co.**SHELLS.**Francati & Santamaria.
Jacob, Bernard.**SHIPS AND SHIPPING. See under NAVIGATION AND LIFE-SAVING.****SHODDY. See under WOOLS AND WOOLLEN FABRICS.****SHOEMAKING MACHINERY. See BOOTMAKING MACHINERY AND APPLIANCES.****SILK AND SILK FABRICS.****I.—RAW AND WASTE SILKS.**Ashworth, M., & Co.
Birchenough, John.
Clayton, Marsdens, Holden, & Co., Limited.
Hadwen, John, & Sons.
Peters & Co.
Watson & Co.**II.—SEWING SILKS, TWISTS, AND YARNS.****Sewing silks and twists.**Adams & Co.
Brough, J. & J., Nicholson, & Co.
Clayton, Marsdens, Holden, & Co., Limited.

SILK AND SILK FABRICS—cont.**II.—SEWING SILKS, TWISTS, AND YARNS—cont.**

Sewing silks and twists
—cont.

Yarns.

Gibson, S., jun.
Rickards, Charles Ayscough.
Ward, Anthony, & Co.
Watson & Co.

Ashworth, M., & Co.
Bonsor, Charles.
Brocklehurst, J. & T., & Sons.
Hadwen, John, & Sons.
Priestman, John, & Co.
Thompson, William, & Co.

III.—SILK FABRICS (Pure).

Cloth and shirtings.

Crape.

Lloyd, Attree, & Smith.

Courtauld, S., & Co.
Grout & Co.
Kay & Richardson.
Norwich Crape Co.

Dress goods.

Andrew, Burrowes, & Atkins.
Birchenough, John.
Clabburn, Sons, & Crisp.
Clayton, Marsdens, Holden, & Co.,
Limited.
Cornes, W. W., & Co.
Hilditch, G. & J. B.
Jackson, J. & F.
Nicholson, J. O.
Patterson, Wm., & Sons.
Salter & Whiter.

Furniture silks.

Clabburn, Sons, & Crisp.
Nicholson, J. O.
Pim Brothers & Co.

Handkerchiefs, cravats,
and scarves.

Andrew, Burrowes, & Atkins.
Birchenough, John.
Brocklehurst, J. & T., & Sons.
Clabburn, Sons, & Crisp.
Cornes, W. W., & Co.
Critchley, Brinsley, & Co.
Evans, David, & Co.
Fyfe & Robinson.
Grout & Co.
Jackson, J. & F.
Nicholson, J. O.
Slater, Buckingham, & Co.
Virgoe, Middleton, & Co.

Umbrella.

Slater, Buckingham, & Co.
Vanner, J., & Sons.
Velet, Margetson, & Co.

Velvets.

Behrens, Louis.
Salter & Whiter.

Webbings.

Dean, William, & Son.
Holme, George.
Peters & Co.
Turner, Archibald, & Co.

SILK AND SILK FABRICS—cont.**IV.—SILK FABRICS (Mixed).**

Smallwares (see also
under HOSIERY).

Tapestry.

Velveteens, &c.

Barbour & Miller.
Birchenough, John.
Clabburn, Sons, & Crisp.
Evans, David, & Co.
Hilditch, G. & J. B.
Pim Brothers & Co.
Salter & Whiter.
Tootal-Broadhurst, Lee, & Co.

Binn's Patent Endless Band Co.
Limited.
Brough, J. & J., Nicholson, & Co.
Holme, George.

Barbour & Miller.

Behrens, Louis.
Hadwen, John, & Son.

SOAPS. See under **WASHING AND LAUNDRY WORK**; and under **PERFUMERY**.

SPINNING MACHINERY AND TEXTILE MACHINERY. (For Motive Powers
see under **MACHINERY AND APPARATUS IN GENERAL**.)

Wool washing and
scouring machine.

Wool drying machine.

Preparing machinery.

Preparing machinery
for flax, tow, and
rope yarn.

Cotton cleaning ma-
chines.

Cotton gins.

Cotton gins (knife
roller).

Carding engine.

Carding machinery.

Combing machines.

Combing machine (No-
ble's comb).

Combing machine (for
tow).

Hackling machines.

Fluting machine.

Mules.

Spinning frames.

Spinning frames (hot
water).

Ring spinning frame
(rabbeth ring thros-
tle).

McNaught, John & William.

McNaught, John & William.

Platt Brothers & Co., Limited.

Lawson, Samuel, & Sons.

Platt Brothers & Co., Limited.

Platt Brothers & Co., Limited.

Brackell, Christopher.

Dobson & Barlow.

Howard & Bullough.

Platt Brothers & Co., Limited.

Dobson & Barlow.

Platt Brothers & Co., Limited.

Crossley, John, & Sons, Limited.

Fairbairn, Kennedy, & Naylor.

Cotton, Stephen.

Fairbairn, Kennedy, & Naylor.

Combe, Barbour, & Combe.

Dobson & Barlow.

Combe, Barbour, & Combe.

Fairbairn, Kennedy, & Naylor.

Howard & Bullough.

SPINNING MACHINERY AND TEXTILE MACHINERY—cont.

Ring and traveller
spinning frame.
Spinning machinery.

Rope yarn spinning
machinery.
Beaming frame (self-
stopping)

Drawing frame.

Intermediate frame.

Lathe (spinning).

Roving frames.

Ribbon lap machine.

Sliver lap machine.

Spreading machine for
silk waste.
Stubbing frame.

Press for bundling
yarns.
Parts of spinning ma-
chinery.

Parts of rope spinning
machinery.

Leather appliances for
spinning machinery.

Leather driving belt-
ing (see also under
MACHINERY AND
APPARATUS IN GE-
NERAL).

Leather sheets.

Leather sheets (end-
less).

Laces.

Composite cards.

Flat cards.

Wire cards.

Card grinding machine.

Dobson & Barlow.

Platt Brothers & Co., Limited.

Lawson, Samuel, & Sons.

Whitley, John Robinson.
Howard & Bullough.]

Combe, Barbour, & Combe.
Dobson & Barlow.
Fairbairn, Kennedy, & Naylor.
Howard & Bullough.

Howard & Bullough.

Combe, Barbour, & Combe.

Dobson & Barlow.
Fairbairn, Kennedy, & Naylor.

Dobson & Barlow.

Dobson & Barlow.

Greenwood & Batley.

Dobson & Barlow.

Combe, Barbour, & Combe.

Combe, Barbour, & Combe.
Dobson & Barlow.
Irvin & Sellers.
Lawson, Samuel, & Sons.
Watkins, Thomas.

Lawson, Samuel, & Sons.

Cockill, John, & Sons.

Goodall, A., & Sons.
White, John, & Sons.

White, John, & Sons.

Goodall, A., & Sons.

White, John, & Sons.

Dobson & Barlow.

Dobson & Barlow.

Bateman, Daniel, & Sons.

Dobson & Barlow.

SPINNING MACHINERY AND TEXTILE MACHINERY—*cont.*

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| Comb (patent expanding). | Whitley, John Robinson. |
| Silk combs (for silk dressing frames). | Goodall, A., & Sons. |
| Gilla. | Combe, Barbour, & Combe. |
| | Hallam Brothers. |
| Hackles (hand). | Hallam Brothers. |
| Hackles (machine). | Hallam Brothers. |
| Card clothing. | Combe, Barbour, & Combe. |
| | Goodall, A., & Sons. |
| | Hallam Brothers. |
| Card clothing (for silk). | Hallam Brothers. |
| Card wire. | Smith, Frederick. |
| Machine hooks. | Nettlefolds. |
| Whipper beater. | Dobson & Barlow. |
| Weaving machinery. | Platt Brothers & Co., Limited. |
| Looms. | Hacking & Co. |
| | Hall, Robert. |
| | Hattersley, George, & Sons. |
| | Hodgson, George. |
| | Livesey, Henry, Limited. |
| | Sowden (David) & Sons. |
| | Hodgson, George. |
| Looms (circular box). | Hacking & Co. |
| Looms (pick and pick). | Hodgson, George. |
| Looms (plain). | Hodgson, George. |
| Looms (power). | Hattersley, George, & Co. |
| | Sowden (David) & Sons. |
| Machinery (Jacquard). | Sowden (David) & Sons. |
| Mill furniture (general). | Livesey, Henry, Limited. |
| Pirn winding machines. | Combe, Barbour, & Combe. |
| | Hacking & Co. |
| Loom springs. | Watkins, Thomas. |
| Loom temples. | Bleazard, James, & Son. |
| Needles (self-acting). | Smith, John Wright. |
| Needles, hooks, guides, and points for lace-making and hosiery machines. | Tatham, Walter, & Co. |
| Pickers. | Tice, William. |
| | Tullis, John, & Son. |

SPINNING MACHINERY AND TEXTILE MACHINERY—cont.

Pickers (for power
and hand looms).
Picking arms.

Shuttles.

Shuttles (for power
and hand looms).
Shuttle eyes, &c.

Shuttle pikes, &c.

Shuttle plates, &c.

Weaving wire.

Wet forks.

Beetling machine.

Double cropping ma-
chine.

Calico dressing (copper
singeing plates for).
Calendering machine.

Sizing and colour beil-
ing machines.

Sizing and cool air
drying machine.

Calico printing (rollers
for).

Folding and measuring
machine.

SPIRITS. See under **BEVERAGES.**

SPORTING GUNS AND AMMUNITION.

Guns.

Guns (automatic
breech-loading).

Guns (automatic cock-
ing).

Guns (automatic self-
cocking).

Guns (breech-loaders).

Guns (breech-loaders,
double grip).

Guns (breech-loaders).

Mitchell, William.

Tullis, John, & Son.

Ingham, John, & Son.
Irvin & Sellers.

Mitchell, William.

Watkins, Thomas.

Ingham, John, & Sons.

Mitchell, William.

Smith, Frederick.

Watkins, Thomas.

Mather & Platt.

Craig, A. F., & Co.

Broughton Copper Co., Limited.

Bradford, Thomas, & Co.

Eastwood, James, & Co., Limited.

Whitley, John Robinson.

Broughton Copper Co., Limited.

Hacking & Co.

Grant, Stephen.

Greener, W. W.

Lancaster, Alfred.

Lang, J., & Sons.

Purdey, James, & Sons.

Scott, W. & C., & Son.

Soper, William.

Tolley, J. & W.

Woodward, J., & Sons.

Lang, J., & Sons.

Woodward, J., & Sons.

Lancaster, Alfred.

Lang, J., & Sons.

Lewis, George Edward.

Patstone, John.

Scott, W. & C., & Son.

Tolley, J. & W.

SPORTING GUNS AND AMMUNITION—*cont.*

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| Guns (central-fire). | Lang, J., & Sons.
Reilly, E. M., & Co. |
| Guns (choke-bore). | Scott, W. & C., & Son.
Tolley, J. & W. |
| Guns, double and single barrel.
Guns (duck). | Reilly, E. M., & Co.
Patstone, John.
Scott, W. & C., & Son. |
| Guns (hammerless). | Gibbs, George.
Greener, W. W.
Lewis, George Edward.
Reilly, E. M., & Co.
Scott, W. & C., & Son. |
| Guns (muzzle-loaders, converted).
Guns (presentation). | Lewis, George Edward.
Reilly, E. M., & Co. |
| Guns (quadruple grip, breech-loading).
Guns (self-cocking). | Lang, J., & Sons.
Gibbs, George.
Lancaster, Alfred. |
| Guns (small bore). | Lang, J., & Sons. |
| Guns (sporting). | Grant, Stephen.
Lancaster, Alfred.
Lewis, George Edward.
Purday, J., & Sons. |
| Guns (treble grip breech-loading). | Lang, J., & Sons.
Lewis, George Edward. |
| Guns (wedge-fast). | Greener, W. W. |
| Guns (wild fowl, &c.). | Reilly, E. M., & Co. |
| Fowling-pieces. | Henry, Alexander.
Patstone, John.
Reilly, E. M., & Co.
Scott, W. & C., & Son. |
| Fowling-pieces (central fire).
Gun cases. | Tolley, J. & W.
Ashford, W. & G., & Winder. |
| Gun locks. | Lewis, George Edward.
Patstone, John. |
| Guns (gunpowder mill tools).
Pistols. | Phosphor Bronze Co.
Greener, W. W. |
| Pistols (saloon). | Lewis, George Edward. |
| Revolvers. | Scott, W. & C., & Son. |

SPORTING GUNS AND AMMUNITION—cont.

Revolvers (military).

Revolvers (presentation).

Rifles.

Rifles (central fire).

Rifles (converted).

Rifles (double).

Rifles (express).

Rifles, express, double and single.

Rifles (hammerless).

Rifles (match).

Rifles (Metford).

Rifles (military).

Rifles (self cocking).

Rifles (sporting).

Carbines (military).

Actions.

Gun barrels.

Barrels.

Breech-loading implements.

Reilly, E. M., & Co.

Reilly, E. M., & Co.

Grant, Stephen.

Greener, W. W.

Henry, Alexander.

Lancaster, Alfred.

Lewis, George Edward.

Purdey, James, & Sons.

Scott, W. & C., & Son.

Tolley, J. & W.

Woodward, J., & Sons.

Lang, J., & Sons.

Lewis, George Edward.

Greener, W. W.

Henry, Alexander.

Lancaster, Alfred.

Lewis, George Edward.

Tolley, J. & W.

Woodward, J., & Sons.

Reilly, E. M., & Co.

Gibbs, George.

Gibbs, George.

Henry, Alexander.

Gibbs, George.

Scott, W. & C., & Son.

Soper, William.

Gibbs, George.

Gibbs, George.

Henry, Alexander.

Lancaster, Alfred.

Purdey, James, and Sons.

Soper, William.

Soper, William.

Grant, Stephen.

Lewis, George Edward.

Patstone, John.

Scott, W. & C., & Son.

Grant, Stephen.

Lewis, George Edward.

Patstone, John.

SPORTING GUNS AND AMMUNITION—*cont.*

Ammunition, sporting
and military.
Caps (percussion).

Canisters (powder).

Cartridges.

Cartridges (sporting).

Cartridges (steel).

Cartridge cases (sport-
ing).

Powder (sporting).

Powder canisters.

Waddings (gun).

Eley Brothers, Limited.

Eley Brothers, Limited.
Kynoch & Co.

Pigou, Wilks, & Laurence, Limited.

Lewis, George Edward.

Kynoch & Co.

Lewis, George Edward.

Eley Brothers, Limited.

Pigou, Wilks, & Laurence, Limited.

Pigou, Wilks, & Laurence, Limited.

Eley Brothers, Limited.

STAINED GLASS (including Painted Glass).

Glass (stained and
painted).
Stained glass.

Stained glass for halls,
&c.

Stained glass windows.

Stained glass windows
(grisaille).

Stained glass windows
(for halls).

Stained glass windows
(for houses).

Stained glass windows
(for rooms).

Stained glass windows
(design for).

Painted glass.

Painted glass (panels).

Painted glass (win-
dows).

Painted glass (windows
for churches).

Powell, James, & Son.

Powell, James, & Son.

Fouracre (J. T.) & Watson.

Camm Brothers.

Constable, William Henry.

Hardman, John, & Co.

Holt, Frank,

Lavers, Barrand, & Westlake.

Lavers, Barrand, & Westlake.

Lavers, Barrand, and Westlake.

Pitman & Cuthbertson.

Camm Brothers.

Simpson, W. B., & Sons.

Howard & Sons.

Shoolbred, James, & Co.

Holt, Frank.

Powell, James, & Son.

Taylor, William George.

Ward & Hughes.

Frampton, Edward.

Morini, Charles de.

Taylor, William George.

STATIONERY AND BOOKBINDING.

Account books.

Account books (merchants, &c.)

Albums (photograph).

Albums (revolving).

Calendars.

Cards of all kinds.

Card.

Card (insoluble metallic).

Cards (mourning).

Cardboard.

Christmas cards.

Copying machine.

Diaries.

Endorsing presses.

Envelopes.

Envelope making machine.

Gum, fluid.

Gum (liquid).

Inks.

Ink (copying).

Ink (marking).

Grosvenor, Chater, & Co.
Waterlow & Sons, Limited.

Skipper, Charles, & East.

Ward, Marcus, & Co.

Hare, George.

Willis, William Henry, & Co.

Pirie, Alexander, & Sons.

Willis, William Henry, & Co.
Woolley & Co.

Patent Waterproof Paper Co.

Terry, Stoneman, & Co.

Pirie, Alexander, & Sons.
Woolley & Co.

Goodall, Charles, & Son.

Pumphrey, Josiah.
Zuccato & Wolff.

Ward, Marcus, & Co.

Bailey Brothers.

King, Son, & Whitaker.

Goodall, C., & Son.

Lyons, William.
Stephens, Henry Charles.

Blackwood & Co.

Bailey & Co.
Best Ink Co.
Blackwood & Co.
Fleming, A. B., & Co.
Hyde & Co.
Lyons, William.
Moncrieff, John.
Stephens, Henry Charles.

Blackwood & Co.
Hyde & Co.
Lyons, William.
Stephens, Henry Charles.

Bailey Brothers.
Blackwood & Co.
Bond, Mrs. M. A. (now Hickisson).
Mather, William.
Stephens, Henry Charles.

STATIONERY AND BOOKBINDING—*cont.*

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| <p>Ink, scarlet.</p> <p>Inkstands.</p> <p>Inkstands (bronze).</p> <p>Inkstands (earthenware).</p> <p>Inkstand (patent).</p> <p>Labels, waterproof.</p> <p>Lever presses.</p> <p>Liquid cement.</p> <p>Mill boards.</p> <p>Paper.</p> <p>Paper (of bamboo).</p> <p>Paper (bank note).</p> <p>Paper, blotting.</p> <p>Paper, brown.</p> <p>Paper (cartridge).</p> <p>Paper (chromo).</p> <p>Paper (cloth lined).</p> <p>Paper (drawing).</p> <p>Paper (drawing and writing).</p> <p>Paper (drawing).</p> <p>Paper (enamelled).</p> <p>Paper (fancy).</p> <p>Paper (grass bleached).</p> <p>Paper (for newspapers).</p> <p>Paper (parchment).</p> | <p>Barnes, Alfred.</p> <p>Gibson, William.</p> <p>Goggin, Jeremiah.</p> <p>Stephens, Henry Charles.</p> <p>Green, Charles.</p> <p>Adams & Bromley.</p> <p>Hancock, F. & C.</p> <p>Thomsons, Felton, & Co.</p> <p>Bailey Brothers.</p> <p>Bailey Brothers.</p> <p>Buckinghamshire Millboard Co.</p> <p>Fletcher, Robert, & Son.</p> <p>Grosvenor, Chater, & Co.</p> <p>Pirie, Alexander, & Sons.</p> <p>Saunders, T. H., & Co.</p> <p>Routledge, Thomas.</p> <p>Grosvenor, Chater, & Co.</p> <p>Grosvenor, Chater, & Co.</p> <p>Saunders, T. H., & Co.</p> <p>Buckinghamshire Millboard Co.</p> <p>Crompton, James R.</p> <p>Fletcher, Robert, & Son.</p> <p>Pirie, Alexander, & Sons.</p> <p>Pirie, Alexander, & Sons.</p> <p>Patent Waterproof Paper Co.</p> <p>Thomsons, Felton, & Co.</p> <p>Grosvenor, Chater, & Co.</p> <p>Cowan, Alexander, & Sons.</p> <p>King, Son, & Whitaker.</p> <p>Newman, James.</p> <p>Pirie, Alexander, & Sons.</p> <p>Woolley & Co.</p> <p>Woolley & Co.</p> <p>Fletcher, Robert, & Son.</p> <p>"The Graphic."</p> <p>Erhardt, H., & Co.</p> |
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STATIONERY AND BOOKBINDING—cont.

Paper (printing).

Crompton, James R.
Saunders, T. H., & Co.

Paper (tissue).

Crompton, James R.
Fletcher, Robert, & Son.

Paper (tracing).

Erhardt, H., & Co.

Paper (writing).

Ward, Marcus, & Co.

Paper (waterproof).

Patent Waterproof Paper Co.
Thomsons, Felton, & Co.

Paper (writing).

King, Son, & Whitaker.

(Papermakers' half
stuff).

Routledge, Thomas.

Papermakers' stock
(Alfa).

Routledge, Thomas.

Paper weights
(bronze).

Green, Charles.

Papyrographic appa-
ratus.

Zuccato & Wolff.

Parallel rulers.

Stephens, Henry Charles.

Pens.

Watkins & McCombie.

Pens (quill).

Stephens, Henry Charles.
Watkins & McCombie.

Pens (steel).

Alexandre, J.
Gillott, Joseph, & Sons.
Hinks, Wells, & Co.
Perry & Co.

Pens (steel and gold).

Leonardt, D., & Co.

Pencils.

Wolff, E., & Sons.

Pencil cases.

Leonardt, D., & Co.
Perry & Co.
Rowney, George, & Co.

Penholders.

Alexandre, J.

Playing cards.

Goodall, Charles, & Son.
Willis, William Henry, & Co.
Woolley & Co.Presses, endorsing and
lever.

Bailey Brothers.

Printing ink.

Bailey Brothers.
Cornelissen, Louis, & Son.
Dane & Co.
Dunn & Co.
Fleming, A. B., & Co.
Stephen, Henry Charles.

Railway stationery.

Waterlow & Sons, Limited.

STATIONERY AND BOOKBINDING—cont.

Rulers (parallel).

Sealing wax.

Stationery.

Stationery and stationers' sundries.

Stationery (Japanese).

Squares (set and T).

Stencil plates.

Visiting cards.

Bookbindings.

Stephens, Henry Charles.

Blackwood & Co.

Hyde & Co.

Lyons, William.

Stephens, Henry Charles.

Waterston, G., Sons, & Stewart.

Watkins & McCombie.

Cowan, Alexander, & Sons.

Goodall, Charles, & Son.

Grosvenor, Chater, & Co.

Pirie, Alexander, & Sons.

Stephens, Henry Charles.

Terry, Stoneman, & Co.

Waterlow & Sons, Limited.

Perry & Co.

Wolff, E., & Son.

Goodall, Charles, & Son.

Rowney, George, & Co.

Bailey Brothers.

Willis, William Henry, & Co.

Blackie & Sons.

Day, John B.

Stocks & Co.

STONEWARE. See under **CERAMICS.****SURGICAL APPLIANCES.** See under **MEDICINE AND HYGIENE.****TAILORING MACHINERY AND APPLIANCES.**Cloth cutting machine
(endless band).

Implements and tools.

See under **TOOLS.**

Measuring instrument.

Sewing machines, &c.

See **SEWING MACHINES.**Sewing and pressing
machine.

Sanson, Robert Bell.

Reeves, Alexander Damiens.

Reilly, Francis.

TANNING MACHINERY AND APPLIANCES.Bark and myrabolams
grinding mill.Fleshing beam and
roller box.

Leather graining rollers.

Tanning tools.

Tanner's bark extract.

Tyler, John Henry.

Tyler, John Henry.

Toleman, James.

Tyler, John Henry.

Miller, J. & J., & Co.

TAPESTRY. See CARPETS AND TAPESTRY, and DECORATIONS AND FURNITURE.

TELEGRAPHS.

Telegraphic apparatus
and appliances gene-
rally.

Telegraph (military).

Telegraph ship.

Electrical apparatus.

Electromotors (see
also under MA-
CHINERY AND APPA-
RATUS IN GENERAL).

Dynamo - electric ma-
chine.

Pneumatic apparatus.

Signalling pneumatic.

Signalling key and
switch.

Submarine cables.

Submarine cables (an-
ti-teredo preserver
for).

Submarine cables (grap-
nel for).

Fire alarm (electric).

Lightning conductors
and lightning guards
(see also under ME-
TALS).

Material.

Coil.

Fusee chains.

Porous ware.

Wire.

Telephones.

British Telegraph Manufactory
Limited.
Siemens Brothers.

British Telegraph Manufactory
Limited.
Chadburn & Son.
Homfray & Co.

British Telegraph Manufactory,
Limited.
Varley, S. Alfred.

Varley, S. Alfred.

Homfray & Co.
Zimdars, C. E.

Homfray & Co.
Zimdars, C. E.

Jamieson, Andrew.

Newall, R. S.
Telegraph Construction and Main-
tenance Co., Limited.
Jamieson, Andrew.

Jamieson, Andrew.

British Telegraph Manufactory,
Limited.

British Telegraph Manufactory,
Limited.

Jamieson, Andrew.
Sanderson & Co.

Patent Nut and Bolt Co., Limited.

Varley, S. Alfred.

Shick, Frederick.

Stiff, James, & Sons.

Smith, Frederick, & Co.

Bell, Alexander Graham.

TELEPHONES. See under TELEGRAPHS.

TIMBER.

Boxwood and hard-
wood logs.

Irvin & Sellers.

TOBACCO IN LEAF.

G 913.

Marcovitch & Co.

C C

TOOLS.

A. General.

Anvils.

Circular cutters.
Drills.

Files and rasps.

Hammers.

Hones and sharpeners.

Picks.

Pliers and nippers.

Rymers.

Saws.

Guy, Henry A., & Co.; 11, Cloak Lane, Cannon Street, London.
 Smith, William, & Son; Dallam Wire Works, Warrington.
 Turton, Thomas, & Sons; Sheaf Works, Sheffield.
 Wright, Peter, & Sons; Constitution Hill Works, Dudley.
 Martin, Robert; Old Charlton, Kent.
 Greenwood & Batley; Albion Works, Armley Road, Leeds.
 Hall, Julius; 90, Chancery Lane, London.
 Martin, Robert; Old Charlton, Kent.
 Smith & Coventry; Gresley Iron Works, Ordsal Lane, Manchester.
 Smith, William, & Son; Dallam Wire Works, Warrington.
 Beardshaw, Herbert; Attercliffe, near Sheffield.
 Bedford, John, & Sons; Lion Works, Sheffield.
 Burys & Co., Limited; Regent Works, Sheffield.
 Hattersley, Edward J., & Co., Limited; Peacroft, Sheffield.
 Jowitt, Thomas, & Sons; Scotia Steel Works, Sheffield.
 Spencer, J. R., & Son; Albion Steel Works, Sheffield.
 Spencer, Walter, & Co.; Midland Steel Works, Rotherham.
 Turton, Thomas, & Sons; Sheaf Works, Sheffield.
 Fussell, James, Sons, & Co.; Mels Iron Works, near Frome, Somerset.
 Hattersley, Edward J., & Co., Limited; Peacroft, Sheffield.
 Montgomerie, John Cuninghame; Stone Works, Dalmore, Stair, Ayrshire.
 Smith & Coventry; Gresley Iron Works, Ordsal Lane, Manchester.
 Van Pragg, Alex., & Co.; 9, Crown Street, Soho, London.
 Fussell, James, Sons, & Co.; Mels Iron Works, near Frome, Somerset.
 Hattersley, Edward J., & Co., Limited; Peacroft, Sheffield.
 Smith, William, & Son; Dallam Wire Works, Warrington.
 Martin, Robert; Old Charlton, Kent.
 Smith & Coventry; Gresley Iron Works, Ordsal Lane, Manchester.
 Beardshaw, Herbert; Attercliffe, near Sheffield.
 Bedford, John, & Sons; Lion Works, Sheffield.
 Burys & Co., Limited; Regent Works, Sheffield.

TOOLS—*cont.*A. General—*cont.*

	Colver Brothers; Pilot Works, Sheffield.
	Jowitt, Thomas, & Sons; Scotia Steel Works, Sheffield.
Screwing tools.	Russell, John, & Co., Limited; Alma Tube Works, Walsall, Staffordshire.
Spades and shovels.	Bedford, John, & Sons; Lion Works, Sheffield.
Standard measures.	Whitworth, Sir Joseph, & Co., Limited; 44, Chorlton Street, Manchester.
Toolholders.	Greenwood & Batley; Albion Works, Armley Road, Leeds.
	Smith & Coventry; Gresley Iron Works, Ordsal Lane, Manchester.
Vices.	Smith, William, & Son; Dallam Wire Works, Warrington.
	Wright, Peter, & Sons; Constitution Hill Works, Dudley.
B. For special trades.	Bedford, John, & Sons; Lion Works, Sheffield.
Agricultural labourers.	Burys & Co., Limited; Regent Works, Sheffield.
	Clark, William; 282, Oxford Street, London.
	Fussell, James, Sons, & Co.; Mells Iron Works, near Frome, Somerset.
	Follows & Bate; Dutton Street Works, Manchester.
Asphalte workers.	Marshall, Alfred, & Co.; Perseverance Iron Works, Heneage Street, Brick Lane, London.
Bootmakers (and shoemakers).	Salmon & Co.; Victoria Works, Kettering.
Carvers.	Addis, J. B., & Sons; Arctic Works, Sheffield.
	Addis, J. B., & Sons; Arctic Works, Sheffield.
Carpenters (see also Tools, general, <i>supra.</i>)	Bedford, John, & Sons; Lion Works, Sheffield.
	Burys & Co., Limited; Regent Works, Sheffield.
	Coppard, John, & Co.; Albion Works, Devonshire Street, Soho, Birmingham.
Clockmakers.	Houghton, James, & Son; Townsend Wire Mills, Turner Street, Warrington, Lancashire.
	Smith, Borthwick; Junction Works, Coventry.
Coopers.	Burys & Co., Limited; Regent Works, Sheffield.
Engineers.	Burys & Co., Limited; Regent Works, Sheffield.
	Jowitt, Thomas, & Sons; Scotia Steel Works, Sheffield.
	Wright, John, & Co.; Essex Works, Broad Street, Birmingham.
Gardeners.	Bedford, John, & Sons; Lion Works, Sheffield.

TOOLS—*cont.*B. For special trades—
cont.

Gas fitters.

Geologists.

Goldbeaters.

Hatters.

Joiners (see also Car-
penters).

Maltsters.

Miners.

Millers.

Navigators, Plate-
layers, &c.
Paper-makers.

Plasterers.

Sculptors.

Silverbeaters (see
Goldbeaters).Shoemakers (see
Bootmakers).

Smiths.

Tailors.

Tanners.

Turners.

Weavers.

Watchmakers (see
Clockmakers).

Wood engravers.

Saynor, Cooke, & Ridal; 13, Ed-
ward Street, Sheffield.Wright, John, & Co.; Essex Works,
Broad Street, Birmingham.Addis, J. B., & Sons; Arctic Works,
Sheffield.Bennett, Thomas, & Son; 70 and 71,
Turnmill Street, Farringdon Road,
London.Puckridge, Frederick, & Nephew;
580, Kingaland Road, London.Paris, James; Margery Park Road,
Stratford, Essex.Bedford, John, & Sons; Lion Works,
Sheffield.Bury & Co., Limited; Regent
Works, Sheffield.Corcoran, Witt, & Co.; 28, Mark
Lane, London.Bury & Co., Limited; Regent
Works, Sheffield.Emmens & Co., Limited; 134, Pal-
merston Buildings, Bishopsgate
Street Within, London.Fussell, James, Sons, & Co.; Mells
Iron Works, near Frome, Somerset.Corcoran, Witt, & Co.; 28, Mark
Lane, London.Fussell, James, Sons, & Co.; Mells
Iron Works, near Frome, Somerset.Colver Brothers; Pilot Works,
Sheffield.Addis, J. B., & Sons; Arctic Works,
Sheffield.Addis, J. B., & Sons; Arctic Works,
Sheffield.Bedford, John, & Sons; Lion Works,
Sheffield.Holmes, George Edward; London
Road, Derby.Wright, Peter, & Sons; Constitu-
tion Hill Works, Dudley.Paris, James; Margery Park Road,
Stratford, Essex.Tyler, John Henry; 38, Abbey
Street, Bermondsey, London.Addis, J. B., & Sons; Arctic Works,
Sheffield.Mitchell, William; Killinghall Mill,
Ripley, Yorkshire.Proprietors of "The Graphic;" 190,
Strand, London.

TOOLS, MACHINE. See MACHINE TOOLS.

TOYS AND GAMES.

Toys.

Driscoll, Henry.
 Hanks, J., & Son.
 Mead & Co.
 Montanari, Richard.
 The Scientific Toy and General
 Novelty Co.
 Stormont, J. G.
 Swan, Charles.

Toys (clockwork).

Hanks, J., & Son.

Toys (hand).

Hanks, J., & Son.

Toys (indoor and out-
door).

Driscoll, Henry.

Toys (mechanical).

Hanks, J., & Son.
 The Scientific Toy and General
 Novelty Co.

Toys (model).

Hanks, J., & Son.
 The Scientific Toy and General
 Novelty Co.

Toys (scientific).

Hanks, J., & Son.
 The Scientific Toy and General
 Novelty Co.
 Stormont, J. G.
 Swan Charles.

Toys (steam).

Hanks, J., & Son.

Dolls.

Montanari, Richard.

Dolls (dressed and un-
dressed).

Montanari, Richard.

Dolls (nursery).

Montanari, Richard.

Dolls (rag).

Montanari, Richard.

Games.

Driscoll, Henry.
 Hely, A. A.
 Nicholson, H.
 The Scientific Toy and General
 Novelty Co.
 Stevens & Son.

Billiard table.

Billiards (parlour).

The Scientific Toy and General
 Novelty Co.
 Nicholson, H.

Playing balls.

Balls (cricket).

Nicholson, H.

Balls (playing).

Nicholson, H.

Cards.

The Scientific Toy and General
 Novelty Co.
 Driscoll, Henry.

Chess.

Hely, A. A.

Chess (model tourna-
ment).

The Scientific Toy and General
 Novelty Co.

Conjuring tricks.

BOYS AND GAMES—cont.

Croquet.

Lawn tennis.

Puzzles.

Tops.

Scientific apparatus
(amusing).

Driscoll, Henry.

Driscoll, Henry.

Driscoll, Henry.

Hanks, J., & Son.

The Scientific Toy and General
Novelty Co.The Scientific Toy and General
Novelty Co.The Scientific Toy and General
Novelty Co.**TRAMWAYS.** See under **RAILWAYS AND TRAMWAYS.****TRAVELLING APPARATUS AND CAMP EQUIPAGE.** (See also under **LEATHER WORK AND FANCY ARTICLES**).

Hat cases.

Portmanteaus and
trunks.Wicker travelling bas-
kets, &c.Exploring equipment
and troops canteen.Tents and marquees
(various).Tents and marquees
(square).*Miscellaneous arti-
cles :—*

Horse clothing, &c.

Rick cloths.

Materials for tent
making.

Materials for flags.

Lee Brothers.

Cave, H. J., & Sons.
Seller, Michael Henry.

Ashford, W. & G., & Winder.

Cave, H. J., & Sons.

Coltman, William.

Jones, Thomas.

Marston, John.

Seller, Michael Henry.

Cave, H. J., & Sons.

Seller, Michael Henry.

White, Thomas.

Edgington, Benjamin.

Unite, John.

Macintosh, Charles, & Co.

Unite, John.

Edgington, Benjamin.

Edgington, Benjamin.

Patent Waterproof Paper and Can-
vas Co.

Unite, John.

Edgington, Benjamin.

USEFUL INSECTS. See **BEEES AND BEEHIVES.****UPHOLSTERERS' DECORATIONS.** See **DECORATIONS AND FURNITURE.****VARNISHES.** See under **OILS AND COLOURS.****VELOCIPEDES.** See under **CARRIAGES.****WAR MATERIAL.** See **MILITARY APPARATUS.**

WASHING AND LAUNDRY WORK.

Washing, wringing, and
mangling machinery.

Bell, J. M., & Co.
Bradford, Thomas, & Co.
Coppard, John, & Co.
Eastwood, James, & Co., Limited.
Hornsby, Richard, & Son.
Wolstencroft, Thomas, & Co.

Bleaching powder.

Boyd, Son, & Co.
Runcorn Soap & Alkali Co., Limited.

Blue.

Colman, J. & J.
James, Edward, & Sons.
Moncrieff, John.
Shaw, Henry, & Co.
Smith, Thomas Ogilvie.
Twelvetrees, Harper, & Co.

Soaps.

Cook, Edward, & Son.
Hemingway, S., & Co.
Hodgson & Simpson.
Price's Patent Candle Co., Limited.

Starch.

Berger, Samuel, & Co.
Chapman, Mark, & Co.
Colman, J. & J.
James, Edward, & Sons.
Jones, Orlando, & Co.
Parsons, Fletcher, & Co.

Washing powders.

Glover, Henry, Son, & Co.
Smith, John Martin.

WATCHES. See CLOCKS AND WATCHES.

WEAVING. See SPINNING MACHINERY AND TEXTILE MACHINERY.

WHEELWRIGHTS' WORK. See under CARRIAGES.

WINES. See under BEVERAGES.

WOOD CARVING. (See also under DECORATIONS AND FURNITURE.)

Wood carving for external decorations.

Cubitt, William, & Co.

Carved woodwork.

Chubb & Son.

Medallion likeness of
H.R.H. the Prince
of Wales, President
of the Royal Commission.

Boyle, Richard B., jun.

Carvings in wood.

Minns, James.

Carving (a fountain).

Cairns, Peter.

WOOLS AND WOOLLEN FABRICS.

I.—WOOLS AND YARNS.

Wools.

Neave, S., & Sons.
Scarborough Brothers.
Tankard, James.

WOOLS AND WOOLLEN FABRICS—cont.**I.—WOOLS AND YARNS—cont.****Yarns.**

Brydone & Brown.
 Jones, Pryce.
 Priestman, John, & Co.
 Patent Waterproof Paper and Canvas
 Co.

II.—WOOLLEN FABRICS AND CLOTHS.**Alpaca.**

Bull & Wilson.
 Haigh, George.
 Incorporated Chamber of Commerce.
 Mitchell & Whytlaw.
 Shaw, John, & Co.
 Stubble, George & James.
 Taylor & Co.
 Turner, J. Brooke, & Co.

Beavers.

Shaw, John, & Co.

Carr, Isaac, & Co.
 Dyson, Joseph, & Sons.
 Hewitt & Kemp.
 Hooper, Charles, & Co.
 Marling & Co.
 Stubble, George & James.

Cashmere.

Taylor & Littlewood.

Cheviots.

Brier, George.
 Clegg, Jesse.
 McLaurin, Peter, Son, & Co.
 Mellor, Thomas, & Son.
 Porter, H. G., & Co.
 Sanderson, R. & A., & Co.
 Shaw, John, & Co.
 Stubble, George & James.

Cloaking.

Bliss, William, & Son.
 Hudson, Sykes, & Bousfield.

Coatings.

Armitage Brothers.
 Barber, Joshua, & Sons.
 Birchall, J. D., & Co.
 Bliss, William, & Son.
 Brier, George.
 Bull & Wilson.
 Carr, Isaac, & Co.
 Clark, John & Thomas.
 Dyson, Joseph, & Sons.
 Haigh, George.
 Hargreave & Nussey.
 Hewitt & Kemp.
 Hooper, Charles, & Co.
 Hudson, Sykes, & Bousfield.
 Incorporated Chamber of Commerce.
 Lupton, William, & Co.
 Porter, H. G., & Co.
 Ritchie, Alfred, & Co.
 Salter, Samuel, & Co.

WOOLS AND WOOLLEN FABRICS—*cont.*II.—WOOLLEN FABRICS AND CLOTHS—*cont.*Coatings—*cont.*

Cords.

Covers.

Doeskins.

Imitations.

Saxons.
Sealskins.

Cloths.

Billiard.
Box.
Carriage.Gloving.
Livery.
Military.

Mantles and skirts.

Pianoforte.

Reversible.
Union.

Mediums.

Meltons.

Shaw, John, & Co.
Stanton & Son.
Stubley, George & James.
Thomas, William, & Sons.
Watson, William, & Sons.Binn's Patent Endless Band Com-
pany, Limited.
Brooke, James, & Son.
Brown, John.

Brown, Linstead, & Co.

Brooke, James, & Son.
Dyson, Joseph, & Son.
Marling & Co.
Stanton & Son.Lord, E., & Co.
Child, William.
Sykes, Godfrey, & Son.Bull & Wilson.
Gledhill, Thomas.
Hagh, George.
Hooper, Charles, & Co.
Howgates, Day, & Holt.
Incorporated Chamber of Commerce.
Marling & Co.
Sheard, Michael, & Son.
Smith, Robert, & Son.
Stanton & Son.
Taylor, J. T. T., & Co.
Thomas, William, & Son.
Stanton & Son.
Warchard, George, & Co.
Hooper, Charles, & Co.
Labron, John.
Lupton, William, & Co.
Hooper, Charles, & Co.
Hooper, Charles, & Co.
Hooper, Charles, & Co.
Howgates, Day, & Holt.
Labron, John.
Sheard, Michael, & Sons.
Hepworth, B., & Sons.
Mitchell Brothers.
Whitehead, R. B., & Brothers,
Limited.
Johnston, James, & Co.
Child, William.
Dodgshun, Isaac, & Co.
Howgates, Day, & Holt.
Hudson, Sykes, & Bousfield.
Tootal-Broadhurst, Lee, & Co.

Lupton, William, & Co.

Carr, Isaac, & Co.
Dodgshun, Isaac, & Co.

WOOLS AND WOOLLEN FABRICS—*cont.*II.—WOOLLEN FABRICS AND CLOTHS—*cont.*Meltons—*cont.*

Union.

Pilots.

Saddlers.

Woollens.

Saxony electorals.

Serges.

Shawls (see also
SHAWLS).

Shirtings.

Small wares (see also
under HOSIERY).

Trouserings.

Tweeds.

All wool.

Fancy.

Scotch.

Hewitt & Kemp.

Marling & Co.

Stanton & Son.

Brook, J. & D.

Dodgshun, Isaac, & Co.

Dyson, Joseph, & Son.

Stubley, George & James.

Bliss, William, & Son.

Brown, Linstead, & Co.

Lord, E., & Co.

Willans, Thomas B., & Co.

Bliss, William, & Son.

Brier, George.

Mahony, Martin, & Brothers.

Willans, Thomas B., & Co.

Bliss, William, & Son.

Byron, Robert.

Donisthorpe, A. R.

Jones, Pryce.

Paton, J. & D., & Co.

Ross, Wm., & Sons.

Welsh Woollen Manufacturing Co.,
Limited.

Willans, Thomas B., & Co

Holme, George.

Peters & Co.

Barber, Joshua, & Sons.

Brooke, James, & Son.

Clark, John & Thomas.

Hooper, Charles, & Co.

Salter, Samuel, & Co.

Shaw, John, & Co.

Thomson, William, & Sons.

Bliss, William, & Son.

Dalziel, James, & Co.

Jones, Pryce.

Welsh Woollen Manufacturing Co.,
Limited.

Bogue, Lees, & Co.

Johnston, James, & Co.

Mahony, Martin, & Brothers.

Clegg, Jesse.

Cochrane, Adam L., & Brothers.

Mahony, Martin, & Brothers.

Alexanders & Co.

Brown Brothers.

Fraser & Smith.

Johnston, James, & Co.

McLaurin, Peter, Son, & Co.

Mitchell, Coats, & Co.